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AIR FORCE FUEL DUMPING: OCTOBER 1974 TO MARCH 1975

AIR FORCE CIVIL ENGINEERING CENTER, OL-AA
KIRTLAND AFB, NEW MEXICO 87117

AUGUST 1975

FINAL REPORT: OCTOBER 1974 - MARCH 1975

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AIR FORCE CIVIL ENGINEERING CENTER
(AIR FORCE SYSTEMS COMMAND)
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Listings and summaries of all reported Air Force fuel dumps between 1 October 1974 and 31 March 1975 are given and are broken down by major command and by aircraft type. The distributions of fuel dumps by geographical area, size, and altitude are also examined. Several geographical areas in which fuel dumping is most likely to have a significant environmental impact are identified. Most fuel dumps fall into one of two distinct classes and can be studied by investigating in detail a typical member of the class. The implications of this simplification for the future conduct of the fuel dumping project are discussed.

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PREFACE

This research was performed under Program Element 62601F, Program 1900, Subtask 8W02. The inclusive dates of this research were from 1 October 1974 to 31 March 1975.

This report has been reviewed by the Information Officer (IO) and is releasable to the National Technical Information Service (NTIS). At NTIS, it will be available to the general public, including foreign nations.

This technical report has been reviewed and is approved for publication.

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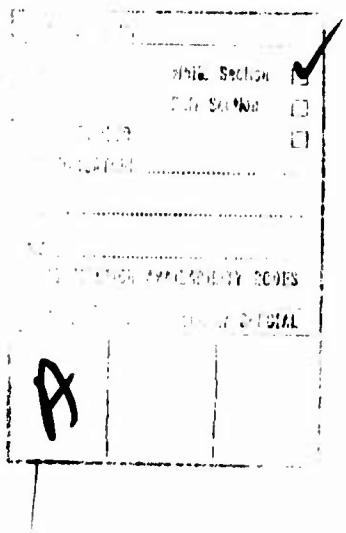

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SECTION I

INTRODUCTION

Between 1969 and 1971, the Air Force was charged with two instances of crop damage in California due to jet fuel dumped by Air Force aircraft operating from Travis AFB and Beale AFB. Also during this period there were inquiries from Congress and from private citizens on Air Force fuel dumping. These inquiries were spurred, in part, by a public controversy over fuel venting by civilian aircraft and by an increased general concern for the environment.

While neither of the allegations against the Air Force was justified, and while the other inquiries were stopped after only a few questions were answered, it became clear that much remained to be learned about the impact of Air Force fuel dumping on the environment. Not only was the effect of the dumped fuel (as fuel liquid or vapor and as raw material for the formation of photochemical smog) on the atmosphere and on living things unknown, but there was not even quantitative knowledge of the full extent of Air Force fuel dumping.

In early 1972, the Environics Branch of the Air Force Weapons Laboratory, which has now been designated the Environics Directorate of the Air Force Civil Engineering Center, began a study of the impact of Air Force fuel dumping on the environment. To answer simple questions regarding the sizes and locations of fuel dumps, and to learn the typical values of other fuel dumping parameters(e.g., altitude, airspeed, dump rate, and meteorological factors) which determine how the fuel behaves physically and chemically after it is released, a full record of Air Force fuel dumping was needed. Consequently, AFR 19-3, dated 15 March 1974, was published, requiring that all Air Force fuel dumps be reported to the Air Force Weapons Laboratory (AFWL).

Data collected for the first six months of full operation of the fuel dump reporting procedures prescribed by AFR 19-3 is presented in this report. The lack of any previous data on this subject and the continuing need for documented facts to answer challenges to Air Force operations make it important that this information be made available throughout the Air Force on a priority basis.

The primary aim of this report is the quick dissemination of this data to using organizations. All reported fuel dumps are tabulated by responsible command and by aircraft type as these two breakdowns are probably the most usable. The fuel dumps are summarized according to the geographical areas in which they occur. Distributions of fuel dumps by altitude and by quantity of fuel are given. A number of geographical areas in which fuel dumps concentrate to a significant degree are identified. Additionally, the implications of the data vis-a-vis research on the physical and chemical behavior of dumped fuel are discussed.

SECTION II

DETAILED FUEL DUMP DATA

As individual fuel dump reports were received at AFWL, the information on each dump was punched on a data card for computer processing. Table 1 lists all reported Air Force fuel dumps for the period 1 October 1974 to 31 March 1975, broken down by the major command responsible for the fuel dumping. Table 2 summarizes the fuel dumping by command and by month.

The data cards were sorted in a different way to produce Table 3, which is a list of all the fuel dumps by aircraft type. A summary of this presentation is given in Table 4.

With regard to the reliability of the data, AFR 19-3 does not require negative reports; therefore, no way is provided to assure the completeness of the reports received. The Strategic Air Command (SAC) had its own fuel dump reporting system before the publication of AFR 19-3 and used this system to provide the reports to AFWL. Presumably, this is a well-tried and efficient reporting system. The fact that only a few Tactical Air Command (TAC) bases reported extensive fuel dumping while the others reported none can be explained by the differences in types of aircraft operating at the bases. At any rate, the data is complete to the extent of full compliance with AFR 19-3.

Some obvious errors were found in the fuel dump reports, e.g., a fuel dump reportedly located over the Soviet Union. Such errors were corrected only when the correction to be made was equally obvious. Even though additional errors in the data may still exist, one must rely on the accuracy and thoroughness of the reporting commands.

TABLE 1. FUEL DUMPS BY COMMAND

COMMAND: AFC

(*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	ACFT	FUEL (*)	ALT X FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
10 31 74	1425	KC121J	115	4.0	7000	2000	150	25	80 20	MAF8VORTAC170/30	41
11 4 74	2035	KC121T	115	8.0	13500	4000	200	2C	330 20	N03641W12508	45
11 27 74	1110	KC121T	115	5.0	23000	4300	180	8C	90 5	N03830W12030	45
12 19 74	1915	KC121	115	4.0	9000	4800	170	17	360 15	NQX 170 15	51
12 20 74	2233	KC121J	115	10.0	9000	3600	200	0C	230 10	N03210W11800	49
1 6 75	0853	KC121T	115	10.0	33000	3600	173	-8C	330 10	N03919W12046	58
1 17 75	2305	KC121T	115	7.0	8000	3000	160	3C	0 0	N03848W12136	58
1 23 75	1105	KC121T	115	7.0	7000	3500	165	12C	310 25	N03919W12046	58
2 11 75	1417	KC121	115	4.0	7320	2440	170	18	220 10	N02420W08050	64
2 19 75	1603	KC121T	115	8.0	29500	3600	160	-8C	330 10	N03440W08450	65
3 6 75	1605	KC121T	115	8.0	24000	3600	180	-10C	320 10	N03848W12136	83
3 20 75	1520	KC121T	115	8.0	24000	3300	170	-5C	260 25	N03850W12150	83
3 27 75	0300	KC121T	115	7.0	37000	4000	150	-15C	230 30	N04641W06803	83

COMMAND TOTALS: 13 DUMPS 191020 LBS

COMMAND: AFLC

(*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	ACFT	FUEL (*)	ALT X FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
1 22 75	1515	T33		3.5	2000	180	175	12C	241 10	MACONRAD8-200ME	59

COMMAND TOTALS: 1 DUMPS 2000 LBS

COMMAND: AFSC

(*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	ACFT	FUEL (*)	ALT X FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
10 2 74	1625	KC135		23.0	46000	2300	350	-25C	330 25	N03445W10635	35
10 14 74	1503	F4		20.0	300	650	430	-12C	360 10	N03308W10620	36
12 6 74	2120	F4D		15.0	50	650	350	50	270 20	N03440W10632	57
12 11 74	2140	F4D		15.0	50	650	350	50	270 15	N03440W10632	57
12 17 74	1645	F4D		5.5	4000	650	350	2C	270 20	N03300W10620	57
12 19 74	2130	KC135N		14.0	50000	4300	380	0C	270 10	200-300EMONOLULU	58
12 19 74	944	F4D		15.0	50	650	350	3CF	270 35	N03440W10632	57
1 10 75	1900	F4D		12.0	50	650	250	0F	330 50	N03340W10630	57
1 14 75	1915	F4D		15.0	50	650	350	0F	270 30	N03440W10640	57
1 21 75	2030	F4D		11.0	50	650	550	-5	330 40	N03440W10640	57
1 27 75	1615	F4D		11.0	50	650	450	0F	024 30	N03450W10645	57
2 4 75	1800	F4D		.5	1500	600	450			N03314W11611	61
2 13 75	1410	NI33A		45.0	2000	180	180	63F	360 15	N03029W08632	62

COMMAND TOTALS: 13 DUMPS 164150 LBS

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TABLE 1. FUEL DUMPS BY COMMAND (Continued)

COMMAND: MAC (*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	ACFT	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
10 6 74	1545	HH3E		1.5	1600	800	90	26C	330 5	N08910W07957	39
11 19 74	1356	C141		35.0	76600	2645	432	-45	240 22	PARKER VORTAC	48
11 13 74	0045	C141		36.0	52000	5000	318	10C	68 20	N01459E12845	48
11 14 74	0200	KC135B		18.0	70000	8000	400	-45	280 40	ALAS/FOKS VORTAC	47
2 28 75	0220	KC135B		18.0	30000	7600	400	-28	270 50	N03905E14420	81
3 25 75	0115	HH3F		.2	500	800	70	4C	260 5	N03831W12283	85

COMMAND TOTALS: 6 DUMPS 230700 LBS

COMMAND: PACAF (*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	ACFT	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
12 30 74	1415	KC11A	115	8.0	3000	2000	170	72	070 15	243/59KOKO TACAN	56

COMMAND TOTALS: 1 DUMPS 3000 LBS

COMMAND: SAC (*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	ACFT	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
10 1 74	0631	KC135S		20.0	20000	6500	450	-30	330 30	N05200E17400	46
10 2 74	1415	KC135A		21.0	95000	6000	350	-30	160 26	N04717W09835	46
10 3 74	1040	KC135A		21.0	33000	6500	450	5	270 30	N04038W08800	46
10 5 74	2232	KC135		.4	76000	6500	265	20	90 5	N01417E14458	46
10 5 74	0120	KC135		18.0	23000	6500	450	-13	340 25	N05347W17618	46
10 5 74	1945	KC135A		14.0	58000	4000	320	10	240 27	N04036W09541	46
10 7 74	0545	KC135S		30.0	10000	6500	450	6	210 15	N05245E17354	46
10 4 74	1620	E3111A		6.0	6000	2000	250	0	330 8	N04439W07320	46
10 4 74	1720	KC135S		20.0	25300	6500	450	-30	150 10	N05338E17200	46
10 8 74	0030	KC135A		4.0	8000	6800	340	20	180 50	N01258E10110	46
10 4 74	0150	KC135Q		11.0	90000	6500	300	20	270 10	N02538E02750	46
10 4 74	0214	KC135A		20.0	24000	600	220	-19	290 50	N03946W08407	46
10 14 74	1005	U2	JPT	14.0	3000	500	180	-6	220 20	N03143W11143	46
10 17 74	1615	U2	JPT	16.0	3000	500	180	-6	220 20	N03143W11143	46
10 18 74	1034	U2	JPT	16.0	3000	500	180	-6	220 20	N03143W11143	46
10 19 74	1758	KC135S		20.0	13000	6500	450	-23	240 15	N05340E17254	46
10 11 74	2235	KC135		2.0	47000	6500	408	6	280 40	N03225W09303	46
10 12 74	0047	KC135A		20.0	21000	6000	350	-25	310 20	N03949W12139	46
10 14 74	0810	KC135S		23.5	22000	6500	450	-40	325 35	N05417E17237	46
10 19 74	2135	KC135M		16.0	60000	4000	400	-4	280 40	N04026W09535	46

TABLE 1. FUEL DUMPS BY COMMAND (Continued)

COMMAND SAC (CONTINUED)

(*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	ACFT	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
10 16 74	0323	KC135		1.2	45000	1000	240	22	285 18	N01317E14353	46
10 17 74	0950	KC135A		20.0	20000	7000	320	-6	240 50	N04311W06930	46
10 18 74	0010	KC135A		20.0	60000	6000	330	-20	335 10	N03342W09954	46
10 18 74	0126	KC135A		21.0	15000	4500	300	-16	310 100	N03925W08342	46
10 21 74	0138	KC135A		2.0	25500	6500	350	4	34 25	N01314E14410	46
10 21 74	1423	KC135A		20.0	25000	8000	320	6	155 12	N04725W11121	46
10 21 74	2040	KC135A		20.0	67000	5500	300	4	270 20	N03209W09911	46
10 22 74	0702	RC135C		10.0	12000	6500	450	-15	270 15	N05134E17433	46
10 22 74	1944	KC135A		21.0	3000	3000	360	-14	270 30	N03230W09305	46
10 22 74	1952	KC135A		10.0	29000	6000	300	7	90 25	N02150W15518	46
10 24 74	1040	RC135C		27.0	36000	4800	370	-37	240 10	N04538W10500	46
10 25 74	0520	RC135M		31.0	30000	6000	180	-2	270 60	N03740E02402	46
10 27 74	1730	RC135		20.0	34000	4000	360	-25	270 35	N03600E02439	46
10 29 74	1805	FC135		13.0	20000	400	270	10	160 10	N04348W10343	46
10 29 74	2020	KC135Q		3.0	40000	300	250	22	290 15	N03224W09322	46
10 29 74	2021	FC135L		20.0	15000	4000	350	-21	220 40	N04051W08556	46
10 30 74	0620	KC135A		22.0	6000	6000	255	8	185 25	N01344E14409	46
10 31 74	2342	KC135A		24.0	28000	4000	235	-10	220 40	N03209W10028	46
10 31 74	2015	RC135S		19.9	9000	6500	450	-12	270 15	N05238E17340	46
11 1 74	0045	KC135A		21.0	30000	7000	400	-10	270 40	N03007W12018	46
11 1 74	0503	FC135C		27.0	54000	6200	400	-32	40 30	N04825W09530	46
11 2 74	0037	RC135M		25.0	78000	1500	400	8	270 10	N01525E11302	46
11 4 74	0755	RC135S		25.0	25000	6500	400	-20	320 30	N05400E17200	46
11 4 74	1515	KC135A		20.0	58000	6000	340	-12	240 25	N03303W08243	46
11 4 74	1641	RC135S		22.0	21000	6500	450	-42	300 55	N05230E17438	46
11 4 74	1735	FB111A		2.0	12000	6000	180	18	270 30	N04448W07316	46
11 4 74	2115	RC135S		20.0	29000	6500	150	-28	300 20	N05245E17420	46
11 5 74	0422	RC135D		24.0	75000	5000	400	-40	220 40	N06510W14627	46
11 5 74	1912	KC135		5.0	40000	700	250	23	95 23	N02039W05804	46
11 7 74	1510	KC135A		10.0	66000	6000	300	17	240 30	N03257W08239	46
11 9 74	1440	KC135		17.0	63000	6500	370	48	240 42	N03444W07822	46
11 10 74	1355	FB111		30.0	10000	2000	250	8	180 15	N04838W08625	46
11 11 74	0210	RC135S		28.0	29000	6500	450	-33	210 10	N04408E07633	46
11 12 74	0005	RC135D		26.0	22000	500	340	-17	290 70	N06504W14618	46
11 12 74	0409	RC135V		23.0	33000	500	250	46	180 6	N04423W07334	46
11 12 74	1353	RC135U		15.0	20000	5000	450	-44	300 70	N04633W10935	46
11 13 74	0049	KC135A		14.0	64000	7300	250	-6	240 20	N03001W12007	46
11 13 74	1641	KC135A		24.0	25000	6000	400	-20	290 40	N04741W09752	46
11 13 74	2030	KC135A		10.0	38000	6000	247	-5	350 40	N04843W09522	46
11 14 74	0617	RC135		28.0	12000	3000	405	-18	300 25	N03600E02515	46
11 15 74	1540	RC135S		21.0	20000	600	450	-44	220 30	N03323E17326	46
11 14 74	1515	RC135S		21.0	33000	6500	450	-20	285 100	N05336E17312	46
11 13 74	2242	RC135D		24.0	68000	3000	355	-41	150 10	N06356W14701	46
11 14 74	1854	KC135A		10.0	64000	7000	365	-22	340 80	N04611W08502	46
11 14 74	2112	KC135Q		28.0	58000	6500	450		70	N04108W11400	46
11 21 74	2237	KC135A		22.0	20000	6000	250	-25	220 30	N06519W14619	46
11 22 74	1013	KC135A		21.0	50000	1000	300	-38	360 40	N04611W08540	46
11 22 74	1619	RC135S		21.0	14000	6500	150	-34	280 70	N05312E17541	46
11 23 74	2145	FB111A		8.0	20000	2500	275	8	320 20	N04431W07352	46
11 24 74	0503	KC135A		15.0	90000	600	350	-30	290 30	N06437W14945	46
11 26 74	2104	KC135A		25.0	63000	6300	375	-10	320 70	N03905W08328	46

TABLE 1. FUEL DUMPS BY COMMAND (Continued)

COMMAND SAC (CONTINUED)

(*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	ACFT	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
11 27 74	1737	KC135		29.0	68000	6500	390	-31	225 70	N06404W14715	46
11 27 74	1824	KC135		20.0	4000	500	325	-14	320 85	N04834W10858	46
11 28 74	0926	KC135A		14.0	60000	5000	280	-2	270 30	N04100W00200	46
11 28 74	1430	KC135A		6.0	36000	5000	320	+12C	280 35	N04300W07829	46
11 29 74	1454	KC135		24.0	30000	600	380	-24	220 20	N03307W11744	46
11 29 74	2215	KC135A		.7	91000	6500	280	-6	190 20	N06430E14704	46
11 30 74	2728	KC135M		25.0	180000	1800		-20	290 18	N02712E12829	46
12 3 74	2235	KC135A		17.0	72000	6500	370	6	300 15	N03156W09929	52
12 3 74	2344	KC135A		28.0	65000	6500	395	-34	280 45	N06413W14724	52
12 4 74	0235	KC135A		21.0	65000	5500	350	-46	320 45	N04615W09505	52
12 4 74	1638	KC135A		24.0	11000	3000	418	-20C	280 65	N05255E00815	53
12 4 74	1540	U2	JPT	19.0	5000	2000	170	-18	230 25	N03159W11100	52
12 4 74	1643	KC135A		20.0	76000	5500	250	-24	310 35	N04050W08651	52
12 5 74	0635	KC135S		23.5	18000	6500	450	-40	30 30	N05334E17257	52
12 6 74	1635	U2	JPT	20.0	13000	300	170	19	310 65	N03150W11100	52
12 6 74	1955	KC135		22.0	55000	6400	360	-4	170 25	N03738W09700	52
12 7 74	1507	KC135S		25.0	14000	6500	450	-50	270 30	N05400E17400	52
12 10 74	2231	KC135R		20.0	20000	6700	314	10	250 40	N04814W09535	52
12 11 74	1635	KC135A		20.0	35000	5000	300	-26	270 70	N04613W08520	52
12 11 74	2058	KC135S		23.5	18000	6500	450	-50	190 15	N05425E17238	52
12 13 74	1432	KC135D		25.0	50000	4400	415	-50	200 20	N06518W14638	52
12 15 74	1617	KC135D		20.0	73000	700	320	-11	260 90	N05330E00842	52
12 17 74	0234	F111A		.8	13000	2500	360	-8	210 29	N04624W06826	52
12 17 74	1630	KC135		20.0	52000	6000	420	-23	270 30	N04740W09800	52
12 17 74	2110	KC135A		16.0	20000	3000	310	4	260 35	N03250W10810	52
12 18 74	0630	KC135A		20.0	65000	6500	375	4	290 12	N03455W10800	52
12 18 74	1330	KC135A		12.0	43000	600	350	-20	260 30	N03458W07748	52
12 18 74	1545	U2	JPT	57.0	3000	1300	420	-60	220 10	N03159W11014	52
12 18 74	0334	KC135A	JP1	20.0	82000	700	325	-6	270 50	N04830W11650	52
12 24 74	0414	KC135A		25.0	47000	600	355	-15	320 65	N03949W12121	52
12 20 74	1832	EC121C		23.5	20000	7700	390	-40	340 50	N04317W10232	52
12 25 74	1400	KC135S		20.0	30000	6500	450	-40	350 40	N05252E17310	52
12 30 74	1935	KC135A		29.0	20000	6500	370	-40	270 90	N03730W09700	52
1 2 75	2017	KC135D		20.0	42000	6800	380	-11	340 65	N04431W07352	60
1 6 75	1843	F111A		8.5	12000	2000	270	10	250 25	N04520W07820	60
1 6 75	1930	KC135		29.0	38000	6500	440	-25	260 70	N04715W11430	60
1 9 75	1934	KC135M		25.0	60000	4000	380	-16	255 30	N02640E12729	60
1 9 75	2030	KC135A		21.0	55000	7200	239	-32	300 40	N04636W06842	60
1 10 75	1223	KC135S		14.0	33000	6500	450	-8	220 10	N05240E17418	60
1 14 75	1525	KC135A		20.0	38000	3000	350	-2	270 45	N04355W07355	60
1 13 75	1840	KC135A		20.0	25000	500	362	-18	300 30	N03636W11915	60
1 13 75	1544	KC135A		22.0	33000	6500	400	-10	190 5	N01358E14645	60
1 15 75	2130	KC135A		20.0	34000	4000	300	-56	40 20	N04624W08858	60
1 15 75	2159	KC135A	JP7	25.0	27000	4500	350	-35	330 60	N03956W12034	60
1 16 75	0625	F111A		5.0	10000	2300	200	-10	260 20	N04438W07332	60
1 16 75	0035	F111A		20.0	17000	2300	322	-2	287 40	N04558W08211	60
1 16 75	1932	KC135A		10.0	71000	6500	300	-20	270 30	N06514W01425	60
1 16 75	2040	KC135A		28.0	81000	6800	425	-26	310 18	N05904W14656	60
1 17 75	1450	KC135A		26.0	67000	600	378	-13	310 40	N03651W11900	60
1 19 75	2125	KC135A		10.0	40000	5800	160	-15	330 40	N04840W09530	60
1 21 75	1300	KC135A		24.0	96000	5500	350	-26	240 20	N06405W14720	60

TABLE 1. FUEL DUMPS BY COMMAND (Continued)

COMMAND: SAC (CONTINUED)

(*) FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	ACFT	FUEL (*)	ALT X FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
1 21 75	2026	KQ1356		16.0	45000	6500	330	-10	300 40	N03730W09700	60
1 22 75	1753	52	JP7	15.0	4000	300	170	1	0 0	N03140W11051	60
1 21 75	2117	KQ1356		20.0	23000	6300	290	-35	260 50	N04027W09535	60
1 22 75	0735	KQ1356		27.0	24000	3300	360	-32	250 75	N04358W08651	60
1 23 75	1736	KQ1356		22.0	43000	4500	220	-20	290 60	N04830W11650	60
1 24 75	0560	KQ1356		20.0	29000	1100	350	-40	230 20	N04515W14700	60
1 24 75	1523	KQ1356		21.0	65000	9000	350	-10	290 55	N05210E00037	60
1 27 75	1736	KQ1356		21.0	18000	2200	312	-20	270 45	N04410W09403	60
1 27 75	2250	KQ1356		20.0	70000	9000	350	-30	320 75	N04423W07336	60
1 24 75	0115	KQ1356		16.0	68000	6000	260	10	260 30	N02130W15700	60
1 24 75	0220	F41114		4.0	14000	300	250	-30	0 0	N04431W07352	60
1 24 75	1210	KQ1356		25.0	27000	2300	320	-20	260 40	N06405W14719	60
1 24 75	1400	KQ1356		25.0	54000	6500	300	-26	250 30	N04058W08651	60
1 31 75	0515	KQ1356	JP7	20.0	40000	9200	300	-10	250 10	N01216E10120	60
2 3 75	1514	KQ1356		24.0	50000	4500	420	-24	260 30	N04327W10215	63
2 3 75	1345	KQ1356		10.0	58000	9000	300	-30	220 10	N06413W14600	63
2 3 75	2200	KQ1356		28.0	107000	4300	420	-40	240 60	N03351E12753	63
2 3 75	2254	KQ1356		21.0	39000	500	300	-10	260 30	N02554E12704	63
2 4 75	2215	KQ1356		19.0	10000	3500	400	-20	270 40	N04027W09535	63
2 4 75	2241	KQ1356		22.0	100000	5000	400	-17	220 65	N02715E12834	63
2 4 75	0700	KQ1356		20.0	40000	7000	370	-14	310 100	N04831W11655	63
2 6 75	2251	KQ1356		29.0	23000	7000	430	-20	300 110	N04200W11740	63
2 7 75	0540	KQ1356		22.0	30000	4200	300	-20	300 20	N06405W14714	63
2 7 75	0451	KQ1356		20.0	60000	6000	383	-24	270 30	N04100W00200	63
2 10 75	0730	KQ1356		26.0	105000	7500	380	20	010 15	N01430E01410	63
2 10 75	1949	KQ1356		25.0	36000	7100	430	-40	320 60	N03943W12139	63
2 11 75	0543	F41114		5.0	8000	2000	200	-20	320 60	N04431W07352	63
2 11 75	0542	KQ1356		20.0	80000	7300	295	-24	240 50	N04830W11057	63
2 11 75	1144	KQ1356		29.0	57000	3000	400	-14	160 15	N01334W14034	63
2 12 75	1331	F41114		5.0	23000	2300	400	-34	320 20	N04316W06950	63
2 14 75	1456	KQ1356		20.0	52000	700	410	-14	270 50	N04318W10231	63
2 14 75	2155	KQ1356		20.0	15000	7000	330	-14	140 35	N03616W11954	63
2 15 75	2254	KQ1356		25.0	62000	6500	360	-30	230 50	N03955W12124	63
2 17 75	1104	KQ1356		10.0	42000	6000	265	-27	340 15	N02150W01560	63
2 14 75	1515	F41114		16.0	10000	1000	326	-10	250 38	N04332W07022	63
2 14 75	1954	52	JP7	15.0	6000	300	200	12	330 15	N03130W11100	63
2 24 75	1945	52	JP7	1.5	5000	500	160	-14	250 50	N03143W11103	63
2 27 75	1555	KQ1356		22.0	20000	8000	295	-12	300 55	N03730W09730	63
2 25 75	0324	KQ1356		20.0	40000	6000	340	-10	300 40	N04830W11650	63
2 26 75	0206	KQ1356	JP7	25.0	18000	6000	230	-34	300 20	N03459W12138	63
2 26 75	2302	KQ1356		24.0	26000	1500	350	-16	330 35	N04326W10236	63
3 4 75	0215	KQ1356		19.5	20000	6000	380	-35	310 35	N03726W12955	64
3 5 75	1849	KQ1356		20.0	52000	8000	360	-5	250 40	N04331W11647	64
3 7 75	2301	KQ1356		8.0	8000	1300	240	11	330 3	N03710W12110	64
3 8 75	2041	KQ1356		22.0	20000	8500	325	-20	240 65	N03730W09730	64
3 6 75	2121	KQ1356		28.0	69000	7500	340	-24	330 55	N04835W11649	64
3 7 75	0505	KQ1356		24.0	37000	700	350	-9	255 70	N02652W12738	64
3 7 75	0540	KQ1356		33.7	50000	2000	410	-25	120 90	N07538W17130	64
3 10 75	1234	KQ1356		22.0	90000	9000	280	-28	350 15	N05324E00109	64
3 11 75	0206	KQ1356		33.0	20000	500	355	-33	210 15	N03645W11920	64
3 11 75	2252	KQ1356		20.0	35000	4500	370	-13	270 65	N03225W09930	64

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TABLE 1. FUEL DUMPS BY COMMAND (Continued)

COMMAND SAC (CONTINUED)

(*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	ACFT	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
3 12 75	1103	KC135D		24.0	77300	6000	280	-9	030 15	N06510W14705	84
3 13 75	0858	KC135A		12.0	72000	6500	295	10	240 10	N08224W10804	84
3 13 75	0529	KC135A		35.0	21300	7200	430	-33	250 40	N08456W07821	84
3 13 75	1235	KC135A		20.0	30000	1000	345	-22	250 120	N08348W07604	84
3 14 75	0356	KC135A		25.0	64000	360	370	-10	290 85	N02639E12726	84
3 14 75	0518	KC135A		20.0	66000		470			N03753N12000	84
3 15 75	0240	KC135A		16.0	37000	200	320	-16	270 35	N02646E12720	84
3 17 75	0036	KC135A		.5	35000	400	300	26C	150 10	N01210E10855	84
3 19 75	1328	KC135A		24.0	37000	3500	350	-37	265 55	N04038W11651	84
3 19 75	2102	KC135A		1.7	90000	6500	350	-20	260 20	N04321W06958	84
3 19 75	2150	F111A		1.4	25000	1000	320	-11	289 11	N04333W07118	84
3 19 75	1945	KC135A		22.0	45000	6000	300	-25	290 12	N03738W09708	84
3 20 75	1721	F111A		5.0	22000	2500	300	5	230 15	N04319W07010	84
3 23 75	2131	KC135		.3	59000	5000	270	-14	220 18	N02721W15239	86
3 25 75	0545	KC135		10.0	50000	6500	300	-20	230 10	N02000W15800	86
3 26 75	1504	KC135A		20.0	120000	6500	330	-26	325 30	N01509W11648	84
3 27 75	1649	KC135A		20.0	55000	6300	370	-14	240 53	N03220W09250	84
3 27 75	2240	KC135A		20.0	10000	6300	360	-10	283 40	N03302W08244	84
3 29 75	0305	KC135D		20.0	50000	6500	347	-2	350 75	N03853W12545	84
3 29 75	2240	KC135		27.0	65000	6000	270	-20	225 75	N02102W15903	86
3 31 75	0045	KC135		27.5	25000	6500	260	-16	260 50	N02300W16400	86
3 31 75	0045	KC135		27.0	65000	6500	270	-16	260 50	N02000W16400	86

COMMAND TOTALS: 195 DUMPS 7817000 LBS

COMMAND TAC

(*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	ACFT	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
10 2 74	1700	F111F		15.0	14000	2300	300	15	030 10	N04252W11606	44
10 4 74	2100	F111F		15.0	10000	2500	360			N04252W11606	43
10 11 74	0045	F111F		15.0	9000	2300	350	-14C	290 10	N04320W11630	42
10 15 74	1300	F111F		9.0	15000	2500	250	40F	099 05	N04251W11606	42
10 16 74	1215	F111F		25.0	5000	2300	420	-18C	270 20	N04236W11752	42
10 17 74	0443	F111F		10.0	3000	2300	250	-10C	270 10	N04251W11606	42
10 21 74	2059	F111F		11.0	14000	2300	358	-6	270 25	198/US 731	42
10 22 74	1250	F111F		17.0	10000	2300	300	-10C	280 06	N04208W11647	42
10 23 74	0100	F111F		16.0	5000	2360	300	-10C	273 10	N04251W11606	42
10 23 74	130	F111F		15.0	9500	2300	300	13	090 15	N04252W11606	44
10 24 74	1245	F111F		10.0	13000	2300	275	-10C	273 10	N04208W11608	42
11 4 74	1700	F111F		15.0	13000	2300	300	-10C	270 10	N04252W11606	54
11 12 74	0240	F111A		11.0	5000	2300	300	-2		N03638W11538	67
11 13 74	1926	F111A		11.0	19800	2300	350	15C	5	N03633W11458	66
11 13 74	0235	F111F		10.0	5000	2300	350		320 20	N04254W11551	54
11 14 74	0028	F111F		17.5	12000	2300	460	-23C	220 30	N04248W11751	54
11 22 74	1414	F111F		15.0	9000	2300	350	-20C	300 20	N04300W11554	54

TABLE 1. FUEL DUMPS BY COMMAND (Continued)

COMMAND: TAC (CONTINUED) (*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	ACFT	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
11 23 74	1410	F111F		14.0	5000	2300	350	-20C	320 25	N04200W11534	54
11 26 74	1630	F111A		18.0	12000	2300	380	-20	270 25	LSV 345/38	66
11 27 74	0845	F111F		20.0	3000	2500	380			N04252W11606	54
12 5 74	0250	F111F		10.0	2000	2300	250	-10C	30 10	N04251W11606	71
12 10 74	0500	F111D		17.0	8500	2300	380	-16	330 30	N03455W10303	55
12 10 74	1800	F111A		10.5	3000	5500	380	-15C	270 5	N03630W11510	69
12 12 74	1710	F111A		12.0	13000	5500	330		270 10	N03731W11514	69
12 14 74	1900	F111D		10.0	11000	2000	400	0C	300 5	N03431W10320	55
12 18 74	1700	F111A		13.5	4500	5500	350	-15C	320 20	N03630W11559	69
12 18 74	2125	F111D		12.0	10000	2300	300	-5	270 20	N03431W10319	55
12 22 74	1800	F111A		12.5	5000	5500	300	-15C	300 18	N03730W11458	69
12 23 74	1450	F111F		10.0	4000	2300	300	-10C	300 10	N04251W11606	71
12 23 74	1700	F111D		10.0	7000	2300	300	0C	20 20	N03423W10330	55
12 24 74	0315	F111D		10.0	4000	2300	250	11C	30 25	N03440W10320	55
12 24 74	0315	F111D		10.0	4000	2300	250	11C	30 25	N03440W10320	55
12 30 74	2300	F111D		14.0	2000	2300	350	-15	210 25	TACAN ----- 83	55
12 30 74	2315	F111D		5.8	4000	2300	250	-15	210 25	GCA GOWNWIND	55
1 3 75	1210	F111F		13.0	8000	2300	450		330 12	N04243W11534	72
1 5 75	0100	F111		11.0	6500	2300	275	25F	270 15	CVS 352/15	88
1 7 75	0330	F111D		13.0	10000	2300	350	20F	300 50	N03500W10330	79
1 7 75	0400	F111		10.0	4000	5500	300	-10C	270 10	352/11-CHAN 104	78
1 7 75	0430	F111		5.8	2500	2300	200	32F	270 30	CVS 038/15-18	88
1 8 75	1220	F111F		12.0	4000	2300	300		310 20	N04230W11556	72
1 14 75	0050	F111D		12.0	16000	2300	300	38F	060 20	RANCHVILLE	79
1 15 75	1915	F111D		13.5	7000	2300	350	18C	220 10	N03423W10330	79
1 17 75	1920	F111D		11.0	12000	2300	350	-2C	010 27	N03429W10319	77
1 21 75	1115	F111D		6.0	2000	5300	250	-1C	030 50	N03425W10300	77
1 23 75	1230	F111F		15.0	12000	2300	400	-2C	307 67	N04252W11606	72
1 27 75	0020	F111		13.0	1100	2300	300	22F	240 50	CVS 005/70-PX8	88
1 27 75	1150	F111F		9.6	3500	2300	300		310 20	N04230W11556	72
1 24 75	0025	F111F		11.0	10000	2300	308			N04230W11556	72
1 24 75	1800	F111F		10.0	17000	2300	350	-2	305 04	N04251W11606	72
1 24 75	055	F111A		13.5	13000	2300	415	-15C	210 38	N03620W11513	68
1 24 75	1650	F111D		5.0	16000	2300	280	-2C	100 38	N03434W10420	77
2 5 75	0830	F111		19.0	14000	2300	400			TEXACO VORTAC	74
2 6 75	0500	F111F		12.0	12000	5500	320			N04251W11606	73
2 6 75	0650	F111		10.5	10000	1800	310	10F	30 10	CVS 352/15	74
2 6 75	0340	F111F		15.0	12000	5500	420	1C	300 20	N04251W11601	73
2 10 75	0010	F111		13.0	5000	2300	400			CVS 265/33	74
2 11 75	0700	F111F		15.0	4000	5500	430			N04240W11550	73
2 12 75	1930	F111		14.0	12000	2300	380	-8C	310 25	AMA328/28 W102/06	76
2 20 75	0900	F111		11.0	15000	2300	400	57	240 24	CVS 352/88	74
2 24 75	0100	F111A		6.0	5000	5500	260		0 0	10NM WEST NELLIS	87
2 25 75	0402	F4E		6.0	1500	2500	250	68F	290 18	N02516W08809	78
2 25 75	0115	F111D		15.0	13000	2300	300	50F	090 10	N03400W10351	75
2 25 75	0800	F111F		15.0	12000	5500	400			N04251W11606	73
2 25 75	1030	F111A		13.0	9000	3500	300		350 20	35NM NE NELLIS	87
2 27 75	2230	F111		10.0	4000	2300	350	12C	240 34	15-20MI NW CVS	74
3 4 75	1030	F111A		17.0	3000	3500	300		255 40	35NM NW NELLIS	87
3 4 75	1040	F111F		18.0	7000	2300	400	-25C	240 30	N04250W11607	98
3 5 75	1210	F111F		11.0	9000	5500	400	36F	280 10	N04318W11630	98

TABLE 1. FUEL DUMPS BY COMMAND (Concluded)

COMMAND: TAC (CONTINUED) (*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TAPE (Z)	ACFT	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
3 10 75	1910	F111[illegible]		10.0	5000	2300	330	-15C	240 40	N03455W10303	92
3 14 75	2030	F111A		16.0	5000	3500	300	-9	[illegible] 0	20NM E NELLIS	87
3 18 75	0250	F111F		15.0	7000	5500	350	-20C	270 50	N04250W11606	90
3 21 75	2245	F111F		15.0	4000	2300	400	-28	270 30	N04250W11610	98
3 26 75	2345	F111D		9.5	3800	2300	350	-12C	200 30	N03438W10336	92
3 27 75	1536	F111		9.0	16000	2300	400	-4C	290 50	N03605W11425	89
3 28 75	1900	F111		15.0	1800	1800	420	-10C		N03900W11420	88
3 31 75	1555	F111A		6.5	12000	3500	300	6	265 45	30NM W NELLIS	87

COMMAND TOTALS: 76 DUMPS 523800 LBS

OVERALL TOTALS: 305 DUMPS 8973870 LBS

NOTES TO TABLE 1

The table lists all fuel dumps between 1 October 1974 and 31 March 1975 for which reports were received at AFWL. Column headings are mostly self-evident. LOG NO. is an internal AFWL accounting number referring back to the original dump report sheet. Airspeed and wind speed are in knots. Air temperature is specified to be degrees Centigrade (C) or Fahrenheit (F) when the original report so designates; otherwise, the units of temperature are uncertain. Fuel type 115/145 is represented in the table as 115.

TABLE 2. SUMMARY OF FUEL DUMPS BY COMMAND/MONTH

Command	Month/Year		Number of Dumps	Total Pounds Dumped
ADC	10/74		1	7,000
	11/74		2	33,500
	12/74		2	17,000
	1/75		3	45,000
	2/75		2	36,820
	3/75		3	51,700
		TOTAL	13	191,020
AFLC	1/75		1	2,000
		TOTAL	1	2,000
AFSC	10/74		2	46,300
	12/74		5	54,150
	1/75		4	200
	2/75		2	3,500
		TOTAL	13	104,150
MAC	10/74		1	1,600
	11/74		3	198,600
	2/75		1	30,000
	3/75		1	500
		TOTAL	6	230,700
PACAF	12/74		1	3,000
		TOTAL	1	3,000
SAC	10/74		39	1,151,000
	11/74		39	1,739,000
	12/74		26	983,000
	1/75		32	1,268,000
	2/75		27	1,104,000
	3/75		32	1,572,000
		TOTAL	195	7,817,000

TABLE 2. SUMMARY OF FUEL DUMPS BY COMMAND/MONTH (Concluded)

Command	Month/Year	Number of Dumps	Total Pounds Dumped
TAC	10/74	11	105,300
	11/74	9	83,000
	12/74	14	83,000
	1/75	17	150,600
	2/75	14	128,500
	3/75	11	72,600
	TOTAL	76	623,000
	OVERALL AIR FORCE TOTALS	305	8,970,870

TABLE 3. FUEL DUMPS BY AIRCRAFT TYPE

TYPE: U2

(*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	CMD	MODEL	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
10 18 74	1035	SAC		JPT	14.0	3000	500	180	-6	220 20	N03143W11143	46
10 18 74	1015	SAC		JPT	16.0	3000	500	180	-6	220 20	N03143W11143	46
10 18 74	1039	SAC		JPT	16.0	3000	500	180	-6	220 20	N03143W11143	46
12 [illegible] 74	1540	SAC		JPT	19.0	5000	2000	170	-10	230 25	N03150W11100	52
12 [illegible] 74	1635	SAC		JPT	20.0	10000	300	170	19	310 65	N03150W11100	52
12 18 74	1545	SAC		JPT	57.0	3000	1000	420	-60	220 10	N03159W11014	52
1 21 75	1733	SAC		JPT	15.0	4000	300	170	1	0 0	N03140W11051	60
2 13 75	1550	SAC		JPT	15.0	6000	300	200	-12	330 15	N03130W11100	63
2 21 75	1545	SAC		JPT	1.5	5000	500	190	-14	250 50	N03143W11103	63

TYPE TOTALS: 9 DUMPS 42000 LBS

TYPE: MH3

(*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	CMD	MODEL	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
10 [illegible] 74	1545	MAC	E		1.5	1600	800	90	26C	330 5	N03918W07957	39
3 23 75	1115	MAC	E		.2	500	800	70	6C	260 5	N03831W12203	85

TYPE TOTALS: 2 DUMPS 2100 LBS

TYPE: F4

(*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	CMD	MODEL	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
10 18 74	1500	AFSC			20.0	300	650	430	-12C	360 10	N03300W10620	36
12 [illegible] 74	2120	AFSC	D		15.0	50	650	350	5C	270 20	N03440W10632	57
12 11 74	2140	AFSC	D		15.0	50	650	350	5C	270 15	N03440W10632	57
12 17 74	1645	AFSC	D		5.5	4000	650	350	2C	270 20	N03300W10620	57
12 18 74	1944	AFSC	D		15.0	50	650	350	30F	270 35	N03440W10632	57
1 10 75	1900	AFSC	D		12.0	50	650	250	0F	330 50	N03340W10630	57
1 14 75	1915	AFSC	D		15.0	50	650	350	0F	270 30	N03440W10640	57
1 21 75	2000	AFSC	D		11.0	50	650	550	-5	330 40	N03440W10640	57
1 27 75	1815	AFSC	D		11.0	50	650	450	3F	024 30	N03450W10645	57
2 4 75	1800	AFSC	D		.5	1500	600	450			N03314W11611	61
2 25 75	0002	TAC	E		6.0	1500	400	250	60F	290 10	N02516W00009	78

TYPE TOTALS: 11 DUMPS 7650 LBS

TABLE 3. FUEL DUMPS BY AIRCRAFT TYPE (Continued)

TYPE: MI34 (*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	CMD	MODE	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
7 13 75	1410	AFSC	A		15.0	2000	100	180	43F	360 15	N03029W00632	62

TYPE TOTALS: 1 JUMPS 2000 LBS

TYPE: T34 (*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	CMD	MODE	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
1 22 75	1315	AFSC			3.5	2000	100	175	12C	241 10	MACONRAD8-28ME	59

TYPE TOTALS: 1 JUMPS 2000 LBS

TYPE: F111 (*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	CMD	MODE	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
10 2 74	1730	TAC	F		15.0	14000	2500	300	15	080 10	N04252W11686	44
10 4 74	2130	TAC	F		15.0	10000	2500	360			N04252W11686	43
10 11 74	0045	TAC	F		15.0	9000	2300	350	-10C	290 10	N04320W11630	42
10 15 74	1800	TAC	F		9.0	15000	2500	250	40F	099 05	N04251W11686	42
10 16 74	0215	TAC	F		25.0	5000	2300	420	-18C	270 20	N04236W11752	42
10 17 74	0443	TAC	F		10.0	3000	2300	250	-10C	270 10	N04251W11686	42
10 21 74	0055	TAC	F		11.0	14000	2300	350	-6	270 25	198/US 731	42
10 22 74	0253	TAC	F		17.0	10800	2300	300	-10C	280 06	N04208W11647	42
10 23 74	0130	TAC	F		16.0	5000	2300	300	-10C	270 10	N04251W11686	42
10 23 74	0130	TAC	F		15.0	9500	2300	300	13	090 15	N04252W11686	44
10 24 74	1245	TAC	F		10.0	10000	2300	275	-10C	270 10	N04208W11608	42
11 3 74	1730	TAC	F		15.0	13000	2300	300	-10C	270 10	N04252W11686	54
11 12 74	0640	TAC	A		11.0	5000	5000	300	-2		N03630W11530	67
11 13 74	1926	TAC	A		11.0	19000	2300	350	15C	5	N03630W11458	66
11 18 74	0235	TAC	F		10.0	5000	2300	350		320 20	N04254W11551	54
11 19 74	0028	TAC	F		17.5	12000	2300	460	-23C	220 30	N04240W11751	54
11 22 74	1914	TAC	F		15.0	9000	2300	350	-20C	300 20	N04300W11554	54
11 23 74	1900	TAC	F		14.0	5000	2300	350	-20C	320 25	N04209W11534	54
11 26 74	1630	TAC	A		10.0	12000	2300	300	-20	270 25	LSV 345/30	66
11 27 74	0845	TAC	F		10.0	3000	2500	300			N04252W11686	54
12 6 74	0250	TAC	F		10.0	3000	2300	250	-10C	90 10	N04251W11686	71
12 13 74	0330	TAC	D		17.0	6500	2300	300	-16	330 30	N03455W10303	55
12 13 74	1800	TAC	A		10.5	3000	5500	300	-15C	270 5	N03630W11510	69
12 16 74	1710	TAC	A		12.6	13000	5500	330		270 10	N03731W11514	69
12 16 74	1900	TAC	D		10.0	11400	2000	400	0C	300 5	N03431W10328	55
12 18 74	1700	TAC	A		13.5	4500	5500	350	-15C	320 20	N03630W11559	69
12 19 74	2125	TAC	D		12.0	10000	2300	300	-5	270 20	N03431W10319	55
12 22 74	1800	TAC	A		12.5	5000	5500	300	-15C	300 10	N03730W11458	69
12 23 74	0430	TAC	F		10.0	4000	2300	300	-10C	300 10	N04251W11686	71

TABLE 3. FUEL DUMPS BY AIRCRAFT TYPE (Continued)

TYPE: F111 (CONTINUED)

(*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	CMD	MODEL	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
12 23 74	1730	TAC	C		10.0	7000	2300	300	0C	20 20	N03423W10330	55
12 24 74	0315	TAC	D		10.0	4000	2300	250	11C	30 25	N03440W10320	55
12 24 74	0315	TAC	D		10.0	4000	2300	250	11C	30 25	N03440W10320	55
12 30 74	2330	TAC	D		14.0	2000	2300	350	-15	210 25	TACAN ----- 03	55
12 30 74	2315	TAC	D		5.0	4000	2300	250	-15	210 25	GCA DOWNWIND	55
1 3 75	2210	TAC	F		13.0	8000	2300	430		330 12	N04243W11534	72
1 5 75	0100	TAC			11.0	6500	2300	275	25F	270 15	CVS 352/15	80
1 7 75	0330	TAC	D		13.0	10000	2300	350	20F	300 50	N03500W10330	79
1 7 75	0400	TAC			10.0	4000	5500	300	-10C	270 10	352/11-CHAN 104	78
1 7 75	0430	TAC			5.0	2500	2300	280	32F	270 30	CVS 030/15-10	80
1 9 75	0220	TAC	F		12.0	4000	2300	300		310 20	N04230W11556	72
1 14 75	0350	TAC	D		12.0	16000	2300	300	38F	060 20	RANCHVILLE	79
1 15 75	1915	TAC	D		13.5	7000	2300	350	10C	220 10	N03423W10330	79
1 17 75	1930	TAC	D		11.0	12000	2300	350	-2C	010 27	N03429W10319	77
1 21 75	2115	TAC	C		6.0	2000	5000	250	-1C	030 50	N03425W10300	77
1 23 75	0230	TAC	F		15.0	12000	2300	400	-2C	307 67	N04252W11606	72
1 27 75	0020	TAC			13.0	1100	2300	300	22F	240 50	CVS 085/70-7X8	80
1 27 75	0130	TAC	F		9.0	9500	2300	300		310 20	N04230W11556	72
1 28 75	0825	TAC	F		11.0	18000	2300	300			N04230W11556	72
1 29 75	1808	TAC	F		10.0	17000	2300	350	-2	305 04	N04251W11606	72
1 28 75	2055	TAC	A		13.5	13000	2300	415	-15C	210 30	N03620W11513	68
1 29 75	1650	TAC	D		5.0	16000	2300	280	-2C	180 30	N03434W10420	77
2 5 75	1830	TAC			19.0	14000	2300	400			TEXACO VORTAC	74
2 6 75	0500	TAC	F		12.0	12000	5500	320			N04251W11606	73
2 9 75	1650	TAC			10.5	18000	1000	310	10F	30 10	CVS 352/15	74
2 9 75	2340	TAC	F		15.0	12000	5500	420	1C	300 20	N04251W11601	73
2 10 75	0410	TAC			13.0	500	2300	400			CVS 265/33	74
2 11 75	0200	TAC	F		15.0	4000	5500	430			N04240W11550	73
2 12 75	1930	TAC			14.0	12000	2300	380	-8C	310 25	AMA320/20 M182/06	76
2 20 75	1915	TAC			11.0	15000	2300	400	57	240 24	CVS 352/00	74
2 24 75	0100	TAC	A		6.0	5000	3500	260		C 0	10NM WEST MELLIS	87
2 25 75	0115	TAC	D		15.0	13000	2300	300	50F	090 10	N03400W10351	75
2 25 75	2000	TAC	F		15.0	12000	5500	400			N04251W11606	73
2 26 75	0300	TAC	A		13.0	9000	3500	300		350 20	35NM NE MELLIS	87
2 27 75	2230	TAC			10.0	4000	2300	350	12C	240 34	15-20MI NW CVS	74
3 4 75	0630	TAC	A		17.0	3000	3500	300		255 40	35NM NW MELLIS	87
3 4 75	2000	TAC	F		10.0	7800	2300	400	-25C	240 30	N04250W11607	90
3 5 75	0210	TAC	F		11.0	8000	5500	400	36F	280 10	N04310W11630	90
3 10 75	1910	TAC	D		10.0	5000	2300	330	-15C	280 40	N03455W10303	92
3 14 75	2030	TAC	A		16.0	5000	3500	300	9	0 0	20NM E MELLIS	87
3 16 75	0250	TAC	F		15.0	7000	5500	350	-20C	270 50	N04250W11606	90
3 21 75	0245	TAC	F		15.0	4000	2300	400	-2C	270 30	N04250W11610	90
3 26 75	0345	TAC	D		9.5	3000	2300	350	-12C	200 30	N03430W10336	92
3 27 75	1530	TAC			9.0	16000	2300	400	-6C	290 50	N03605W11425	89
3 28 75	1900	TAC			15.0	1000	1000	420	-18C		N03900W11420	88
3 31 75	1555	TAC	A		6.5	12000	3500	300	6	265 45	30NM W MELLIS	87

TYPE TOTALS: 75 DUMPS 621500 LBS

TABLE 3. FUEL DUMPS BY AIRCRAFT TYPE (Continued)

TYPE: F8111 (*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	CMD	MODEL	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
10 8 74	1628	SAC	A		6.0	6000	2000	250	0	330 8	N04430W07320	46
11 4 74	1735	SAC	A		2.0	12000	6000	180	18	270 30	N04440W07316	46
11 18 74	1355	SAC			33.0	10000	2000	250	8	180 15	N04830W08625	46
11 23 74	2145	SAC	A		8.0	20000	2500	275	8	320 20	N04631W07352	46
12 17 74	0230	SAC	A		.8	13000	2500	360	-8	210 29	N04620W06826	52
1 6 75	1843	SAC	A		8.5	12000	2000	270	10	250 25	N04520W07020	60
1 14 75	0025	SAC	A		5.0	18000	2300	280	-10	260 20	N04630W07332	60
1 16 75	0835	SAC	A		20.0	17000	2300	322	-2	287 40	N04550W08211	60
1 29 75	0220	SAC	A		6.0	14000	300	250	-06	0	N04631W07352	60
2 11 75	0540	SAC	A		3.0	8000	2000	280	-12	320 60	N04631W07352	63
2 12 75	1321	SAC	A		5.0	23040	2300	400	-03	320 20	N04316W06950	63
2 19 75	1515	SAC	A		16.0	18000	1800	326	-20	250 30	N04302W07022	63
3 16 75	2130	SAC	A		1.4	23000	1000	320	-11	209 11	N04333W07110	84
3 20 75	1720	SAC	A		5.0	22000	2500	300	5	230 15	N04310W07010	84

TYPE TOTALS: 14 DUMPS 208000 LBS

TYPE: VC118 (*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	CMD	MODEL	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
12 31 74	1415	PACAF		115	8.0	3000	2000	170	72	070 15	243/59KOKO TACAN	56

TYPE TOTALS: 1 DUMPS 3000 LBS

TYPE: KC121 (*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	CMD	MODEL	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
10 31 74	1425	ADC	Q	115	6.0	7000	2000	150	25	80 20	HAF@VORTAC170/30	41
11 8 74	2055	ADC	T	115	8.0	13500	4000	200	2C	300 20	N03641W12500	45
11 27 74	0118	ADC	T	115	5.0	20000	4000	180	0C	90 5	N03630W12030	45
12 14 74	1915	ADC		115	6.0	8000	4000	170	17	360 15	MQX 170 15	51
12 20 74	2200	ADC	U	115	10.0	9000	3600	200	0C	230 10	N03218W11000	49
1 0 75	0050	ADC	T	115	10.0	30000	3600	173	-0C	330 10	N03919W12046	58
1 17 75	2305	ADC	T	115	7.0	8000	3000	160	3C	0 0	N03648W12136	58
1 23 75	0135	ADC	T	115	7.0	7000	3500	185	12C	310 25	N03919W12046	58
2 11 75	1917	ADC		115	6.0	7320	2440	170	10	220 10	N02420W08050	64
2 14 75	1500	ADC	T	115	8.0	29500	3600	160	-0C	330 10	N03440W08450	65
3 6 75	1605	ADC	T	115	8.0	24000	3600	180	-10C	320 10	N03648W12136	83
3 26 75	1520	ADC	T	115	8.0	24000	3300	170	-5C	260 25	N03858W12150	83
3 27 75	0300	ADC	T	115	7.0	3700	4000	150	-15C	230 30	N04641W06803	83

TYPE TOTALS: 13 DUMPS 191020 LBS

TABLE 3. FUEL DUMPS BY AIRCRAFT TYPE (Continued)

TYPE: KC135 (*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	CMD	MODEL	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
12 20 74	1852	SAC	C		23.5	28000	7700	390	-40	340 50	N06317W10232	52

TYPE TOTALS: 1 DUMPS 28000 LBS

TYPE: KC135 (*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	CMD	MODEL	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
10 24 74	1805	SAC			13.0	28000	600	270	10	160 10	N06348W10343	46
10 24 74	2021	SAC	L		28.0	15000	4000	350	-21	220 40	N06051W08551	46
11 1 74	0503	SAC	C		27.0	54000	6200	400	-32	40 30	N04825W09530	46
12 15 74	2130	AFSC	N		14.0	53000	4000	380	00	270 10	208-308EHONOLULU	58

TYPE TOTALS: 4 DUMPS 139000 LBS

TYPE: KC135 (*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	CMD	MODEL	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
10 2 74	1915	SAC	A		21.0	95000	6000	350	-30	160 26	N04717W09035	46
10 3 74	1048	SAC	U		21.0	33000	6500	450	5	270 30	N04030W08000	46
10 3 74	2252	SAC			.4	76000	6500	265	20	90 5	N01417E14450	46
10 4 74	0038	SAC	A		4.0	8000	6000	340	28	100 50	N01258E10110	46
10 4 74	0150	SAC	Q		11.0	90000	6500	300	20	270 10	N02530E02750	46
10 9 74	0216	SAC	A		28.0	24000	600	220	-19	230 50	N03946W08407	46
10 11 74	1735	SAC			2.0	47000	6500	400	6	280 40	N03225W09300	46
10 12 74	0047	SAC	A		28.0	21000	6000	350	-25	310 20	N03949W12139	46
10 16 74	0323	SAC			1.2	45000	1000	240	22	285 10	N01317E14353	46
10 17 74	0450	SAC	A		28.0	28000	7000	320	-6	240 50	N04311W06930	46
10 19 74	0010	SAC	A		28.0	60000	6000	330	-28	335 10	N03342W09954	46
10 19 74	0126	SAC	A		21.0	15000	4500	300	-16	310 100	N03925W08362	46
10 21 74	0130	SAC	A		2.0	25000	6500	350	4	90 25	N01314E14410	46
10 21 74	1423	SAC	A		28.0	25000	6000	320	6	155 12	N04725W11121	46
10 21 74	2040	SAC	A		28.0	67000	5500	300	4	270 20	N03209W09911	46
10 22 74	1944	SAC	A		21.0	3000	3000	360	-14	270 30	N03230W09305	46
10 22 74	1952	SAC	A		18.0	29000	6000	300	7	90 25	N02150W15510	46
10 29 74	2028	SAC	Q		3.0	40000	300	250	22	290 15	N03224W09322	46
10 31 74	0628	SAC	A		22.0	6000	6000	255	8	105 25	N01344E14400	46
10 30 74	2342	SAC	A		24.0	28000	4000	235	-10	220 40	N03209W10020	46
11 1 74	0045	SAC	A		21.0	38000	7000	400	-10	270 40	N03007W12010	46
11 4 74	1515	SAC	A		28.0	58000	6000	340	-12	240 25	N03303W08243	46
11 6 74	1912	SAC			5.0	40000	700	250	23	95 [illegible]	N02039W05004	46
11 7 74	1510	SAC	A		10.0	66000	6000	300	17	240 30	N03257W08239	46
11 8 74	1418	SAC			17.0	63000	6500	370	48	240 42	N03444W07822	46
11 13 74	0049	SAC	A		14.0	64000	7300	250	-6	240 28	N03001W12007	46

TABLE 3. FUEL DUMPS BY AIRCRAFT TYPE (Continued)

TYPE: KC135 (CONTINUED)

(*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	CMD	MODEL	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
11 13 74	1841	SAC	A		24.0	25000	6000	400	-20	290 40	N04741W89752	46
11 13 74	2030	SAC	A		18.0	30000	6000	247	-5	350 40	N04043W89522	46
11 19 74	1854	SAC	A		10.0	64000	7000	365	-22	340 80	N04611W88582	46
11 19 74	2112	SAC	C		28.0	50000	6500	450		70	N04100W11400	46
11 21 74	2237	SAC	A		22.0	20000	6000	250	-25	220 30	N06519W14619	46
11 22 74	0010	SAC	A		21.0	50000	1000	300	-30	360 40	N04611W88540	46
11 24 74	2300	SAC	A		15.0	80000	600	350	-30	290 30	N06437W14945	46
11 26 74	1104	SAC	A		25.0	63000	6300	375	-10	320 70	N03905W88320	46
11 27 74	1737	SAC			29.0	60000	6500	390	-31	225 70	N06404W14715	46
11 27 74	1824	SAC			20.0	4000	500	325	-14	320 85	N04834W10850	46
11 29 74	0920	SAC	A		14.0	60000	5000	288	-2	270 30	N04100W88200	46
11 29 74	1430	SAC	A		6.0	36000	5000	320	+12C	280 35	N04300W87829	46
11 29 74	1459	SAC			24.0	38000	600	300	-24	220 20	N03307W11744	46
11 29 74	2215	SAC	A		.7	91000	6500	280	-6	190 20	N06430E14704	46
12 3 74	2205	SAC	A		17.0	72000	6500	370	6	300 15	N03156W89929	52
12 3 74	2244	SAC	A		28.0	65000	8500	395	-34	280 45	N06413W14724	52
12 4 74	0205	SAC	A		21.0	65000	5500	350	-46	320 45	N04615W88505	52
12 4 74	1423	SAC	A		24.0	11000	3000	410	-28C	280 65	N05255E00015	53
12 4 74	1803	SAC	A		28.0	76000	5500	250	-24	310 35	N04050W88651	52
12 6 74	1955	SAC			22.0	55000	6400	360	-4	170 25	N03730W89700	52
12 10 74	2101	SAC	R		28.0	20000	6700	310	10	250 40	N04014W89535	52
12 11 74	1635	SAC	A		28.0	35000	5000	300	-26	270 70	N04613W88520	52
12 16 74	1617	SAC	Q		28.0	70000	700	320	-11	20 30	N05330E00042	52
12 17 74	1830	SAC			28.0	52000	6000	420	-23	270 30	N04740W89000	52
12 17 74	2110	SAC	A		16.0	28000	3000	310	4	260 35	N03250W10010	52
12 18 74	0030	SAC	A		28.0	65000	6500	375	4	290 12	N03455W10000	52
12 18 74	1330	SAC	A		12.0	43000	600	350	-20	280 30	N03450W87740	52
12 19 74	0324	SAC	A	JP1	28.0	82000	700	325	-6	270 50	N04030W11650	52
12 20 74	0414	SAC	A		25.0	47000	600	355	-15	320 65	N03949W12121	52
12 30 74	1935	SAC	A		29.0	20000	6500	370	-40	270 90	N03730W89700	52
1 2 75	2017	SAC	Q		28.0	42000	6000	380	-11	340 65	N04431W87352	60
1 6 75	1930	SAC			29.0	38000	6500	440	-25	280 70	N04715W11430	60
1 9 75	2030	SAC	A		21.0	55000	7200	239	-32	300 60	N04636W86842	60
1 10 75	1525	SAC	A		28.0	38000	3000	350	-2	270 45	N04355W87355	60
1 10 75	2340	SAC	A		28.0	25000	500	362	-10	300 30	N03636W11915	60
1 13 75	0544	SAC	A		22.0	38000	6500	400	-10	100 5	N01350E14645	60
1 13 75	2130	SAC	A		28.0	34000	4000	300	-56	40 20	N04624W88050	60
1 13 75	2159	SAC	Q	JP7	25.0	27000	4500	350	-35	330 60	N03956W12034	60
1 16 75	0902	SAC	A		10.0	71000	6500	300	-20	270 30	N06514W01425	60
1 16 75	2040	SAC	A		28.0	81000	6000	425	-28	310 10	N05904W14656	60
1 17 75	0458	SAC	A		26.0	67000	600	370	-13	310 40	N03651W11900	60
1 20 75	1300	SAC	A		14.0	96000	5500	350	-20	240 20	N06400W14720	60
1 20 75	2020	SAC	A		16.0	45000	6500	335	-10	300 40	N03730W09700	60
1 21 75	2117	SAC	A		20.0	23000	6000	290	-33	260 50	N04027W89530	60
1 22 75	0735	SAC	A		27.0	29000	3300	360	-32	250 75	N04050W88651	60
1 23 75	1735	SAC	A		22.0	43000	4500	220	-20	290 60	N04030W11650	60
1 24 75	1523	SAC	Q		21.0	65000	6000	350	-10	260 55	N05210E00037	60
1 27 75	1730	SAC	A		21.0	18000	2200	312	-20	270 85	N04418W88403	60
1 27 75	2250	SAC			28.0	70000	600	350	-30	302 75	N04423W87336	60
1 28 75	0115	SAC	A		16.0	63000	6000	260	10	260 30	N02130W15700	60
1 29 75	1210	SAC	A		25.0	27000	2000	320	-20	260 40	N06405W14710	60

TABLE 3. FUEL DUMPS BY AIRCRAFT TYPE (Continued)

TYPE: KC135 (CONTINUED)

(*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	CMD	MODEL	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
1 24 75	1420	SAC	A		25.0	38000	6580	300	-26	250 98	N04858W08651	60
1 31 75	2515	SAC	J	JP7	28.0	40000	6200	350	0C	250 18	N81212E10120	60
2 3 75	1519	SAC	A		24.0	50000	4500	420	-24	250 30	N04327W10215	63
2 3 75	1845	SAC	A		18.0	35000	6000	300	-06	220 10	N06410W10600	63
2 5 75	0808	SAC	A		28.0	40000	7000	370	-14	010 100	N04031W11655	63
2 5 75	2258	SAC	A		29.0	23000	7000	400	-20	300 110	N04200W11740	63
2 7 75	0508	SAC	Q		22.0	38000	4200	300	-20	300 20	N06406W10714	63
2 7 75	0951	SAC	A		28.0	50000	600	303	-24	270 30	N06100W00200	63
2 10 75	0730	SAC	A		16.0	105000	7500	330	22	010 15	N01430E01410	63
2 10 75	1545	SAC	A		25.0	30000	7100	335	-42	320 60	N03949W12130	63
2 11 75	0642	SAC	A		28.0	80000	7300	285	-24	280 50	N04036W01057	63
2 11 75	1114	SAC			29.0	37000	3000	480	-12	166 15	N01334W10034	63
2 14 75	1454	SAC	A		28.0	53000	700	410	-14	270 50	N04318W10231	63
2 14 75	2150	SAC	A		20.0	15000	7000	330	-14	194 35	N03616W11954	63
2 15 75	2253	SAC	A		25.0	62000	6500	360	-30	280 50	N03955W12124	63
2 17 75	2104	SAC	A		18.0	42000	6000	285	-07	040 15	N02150W01560	63
2 27 75	1555	SAC	A		22.0	28000	6000	255	-12	300 55	N03730W09700	63
2 28 75	0824	SAC	A		28.0	60000	6000	300	-18	300 80	N04030W11650	63
2 24 75	0208	SAC	J	JP7	25.0	18000	6000	230	-34	300 20	N03950W12130	63
2 28 75	2302	SAC	A		24.0	26000	1500	350	-18	330 85	N04326W10236	63
3 5 75	0215	SAC	A		39.5	20000	6000	300	-35	010 35	N03726W12955	84
3 5 75	1049	SAC	A		28.0	53000	6000	360	-5	250 40	N03310W11647	84
3 5 75	2301	SAC	A		0.0	8000	1300	200	11	000 3	N03710W12110	84
3 6 75	2041	SAC	A		22.0	20000	6500	325	-20	240 65	N03730W09700	84
3 6 75	2121	SAC	A		28.0	65000	7500	390	-24	330 55	N04035W11640	84
3 11 75	0258	SAC	A		23.0	20000	500	355	-33	010 15	N03645W11920	84
3 11 75	0258	SAC	A		26.0	35000	6500	370	-18	270 65	N03225W09306	84
3 13 75	0038	SAC	A		12.0	72000	6500	295	10	240 10	N0[illegible]4W10004	84
3 13 75	0529	SAC	A		35.0	21000	7200	430	-33	250 40	N03456W07021	84
3 13 75	1235	SAC	A		28.0	38000	1000	345	-22	250 120	N04340W07604	84
3 14 75	0518	SAC	A		28.0	66000		470			N03753W12000	84
3 17 75	0034	SAC	A		.5	95000	400	300	26C	150 10	N01210E10055	84
3 18 75	0328	SAC	A		24.0	37000	3500	350	-37	265 55	N04830W11651	84
3 18 75	2102	SAC	A		1.7	90000	6500	350	-20	260 20	N04321W06958	84
3 19 75	1945	SAC	A		22.0	45000	6000	300	-25	290 12	N03730W09700	84
3 22 75	2131	SAC			.3	59000	5000	270	-14	220 10	N02721W15239	86
3 25 75	0505	SAC			18.0	58000	6500	300	-20	230 10	N02000W15000	86
3 26 75	2509	SAC	A		20.0	120000	6500	330	-26	325 30	N01509W11640	84
3 27 75	1649	SAC	A		28.0	55000	6000	370	-14	240 >0	N03220W09250	84
3 27 75	2248	SAC	A		20.0	10000	6300	360	-10	283 40	N03302W08244	84
3 29 75	0305	SAC	Q		28.0	50000	6500	347	-2	350 75	N03053W12545	84
3 29 75	2240	SAC			27.0	65000	6000	270	-20	225 75	N02102W15903	86
3 31 75	2045	SAC			27.5	25000	6500	260	-16	260 50	N02000W16400	86
3 31 75	0845	SAC			27.0	65000	6500	270	-16	260 50	N02000W16400	86

TYPE TOTALS: 121 DUMPS 5560000 LBS

TABLE 3. FUEL DUMPS BY AIRCRAFT TYPE (Continued)

TYPE: KKC135 (*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	CMD	MODEL	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
10 2 74	1635	AFSC	N		23.0	66000	2000	350	-25C	330 25	N03445W18635	35

TYPE TOTALS: 1 DUMPS 66000 LBS

TYPE: RC135 (*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	CMD	MODEL	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
10 1 74	0031	SAC	S		20.0	20000	6500	450	-30	330 30	N05208E17400	46
10 5 74	0120	SAC			18.0	23000	6500	450	-13	340 25	N05347W17610	46
10 5 74	1945	SAC	M		14.0	58000	4000	320	10	240 27	N04836W09541	46
10 7 74	0545	SAC	S		30.0	10000	6500	450	6	210 15	N05245E17354	46
10 8 74	1720	SAC	S		20.0	25000	6500	450	-30	150 10	N05330E17200	46
10 10 74	1750	SAC	S		20.0	13000	6500	450	-23	240 15	N05340E17254	46
10 14 74	0818	SAC	S		23.5	22000	6500	450	-40	325 35	N05417E17237	46
10 15 74	2135	SAC	M		16.0	60000	4000	400	-4	280 40	N04826W09535	46
10 22 74	0702	SAC	S		10.0	12000	6500	450	-15	270 15	N05134E17433	46
10 24 74	0840	SAC	C		27.0	36000	4000	370	-37	240 10	N04530W10500	46
10 25 74	0520	SAC	M		31.0	30000	6000	180	-2	270 60	N03740E02402	46
10 27 74	0730	SAC			28.0	34000	4000	360	-25	270 35	N03600E02439	46
10 31 74	2015	SAC	S		19.9	9000	6500	450	-12	270 15	N05230E17340	46
11 2 74	0007	SAC	M		25.0	70000	1500	400	0	270 10	N01525E11302	46
11 4 74	0755	SAC	S		25.0	25000	6500	488	-28	320 30	N05400E17200	46
11 4 74	1641	SAC	S		22.0	21000	6500	450	-42	300 55	N05230E17430	46
11 4 74	2115	SAC	S		20.0	29000	6500	150	-20	300 20	N05245E17420	46
11 6 74	0422	SAC	C		24.0	75000	5000	400	-40	220 40	N06510W14627	46
11 11 74	0218	SAC	S		20.0	20000	6500	450	-33	210 10	N04400E07633	46
11 12 74	0805	SAC	D		26.0	22000	500	340	-17	290 70	N06504W14610	46
11 12 74	0439	SAC	W		23.0	33000	500	250	46	180 6	N04423W07334	46
11 12 74	1353	SAC	U		15.0	20000	5000	450	-44	300 70	N04633W10905	46
11 14 74	0817	SAC			20.0	13000	3000	405	-10	300 25	N03600E02515	46
11 15 74	1540	SAC	S		21.0	20000	600	450	-44	220 30	N03323E17326	46
11 18 74	1515	SAC	S		21.0	33000	6500	450	-20	285 100	N05336E17312	46
11 19 74	0242	SAC	D		24.0	60000	3000	355	-41	150 10	N06356W14701	46
11 22 74	0619	SAC	S		21.0	14000	6500	150	-34	280 70	N05312E17541	46
11 30 74	0720	SAC	P		25.0	100000	1000		-20	290 10	N02712E12029	46
12 5 74	0635	SAC	S		23.5	18000	6500	450	-40	30 30	N05330E17257	52
12 7 74	1517	SAC	S		25.0	18000	6500	450	-50	270 30	N05400E17400	52
12 11 74	2058	SAC	S		23.5	18000	6500	450	-50	190 15	N05425E17230	52
12 13 74	1402	SAC	D		25.0	50000	4400	415	-50	280 20	N06510W14630	52
12 25 74	1440	SAC	S		28.0	30000	6500	450	-40	350 40	N05252E17310	52
1 6 75	0434	SAC	M		25.0	60000	4000	380	-10	255 90	N02640E12729	60
1 14 75	0220	SAC	S		14.0	33000	6500	450	-8	220 10	N05240E17410	60
1 14 75	2125	SAC	A		10.0	40000	3300	160	-15	330 40	N04040W09530	60
1 24 75	0508	SAC	D		28.0	29000	1100	350	-40	230 20	N06515W14700	60
2 1 75	2208	SAC	D		28.0	107000	4000	420	-40	240 60	N03351E12753	63
2 3 75	2254	SAC	M		21.0	39000	500	360	-16	260 30	N02554E12704	63
2 4 75	2205	SAC	W		19.0	10000	2500	400	-20	275 40	N04027W09535	63

TABLE 3. FUEL DUMPS BY AIRCRAFT TYPE (Concluded)

TYPE: KC135 (CONTINUED)

(*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	CMD	MODEL	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
2 4 75	2241	SAC	M		22.0	100000	5000	400	-17	220 55	N02715E12804	63
3 7 75	0535	SAC	M		24.0	37000	700	350	-6	255 70	N02652W12738	84
3 7 75	0540	SAC	D		33.0	50000	2000	410	-25	120 60	N07538W17138	84
3 10 75	1234	SAC	M		22.0	90000	9000	240	-20	340 15	N05320E08109	84
3 12 75	0103	SAC	D		24.0	77000	6000	280	-9	030 15	N06510W14705	84
3 14 75	0354	SAC	M		25.0	60000	300	370	-10	290 85	N02639E12726	84
3 15 75	1248	SAC	M		16.0	37000	200	320	-16	273 35	N02644E12728	84

TYPE TOTALS: 47 DUMPS 1898000 LBS

TYPE: KC135

(*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	CMD	MODEL	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
11 19 74	0230	MAC	B		18.0	78000	8000	400	-45	280 60	ALAS/F8KS VORTAC	47
2 28 75	2223	MAC	B		18.0	38000	7600	400	-28	270 50	N03905E14620	81

TYPE TOTALS: 2 DUMPS 180800 LBS

TYPE: C141

(*)FUEL IS JP-4 IF ENTRY BLANK

DATE	TIME (Z)	CMD	MODEL	FUEL (*)	ALT K FT	POUNDS DUMPED	DUMP RATE LB/MIN	AIR SPD	AIR TEMP	WIND DIR/SPD	COORDINATES	LOG NO.
11 18 74	1358	MAC			35.0	76600	2645	432	-45	240 22	PARKER VORTAC	48
11 19 74	0015	MAC			16.0	52000	5800	310	10C	60 20	N01459E12845	48

TYPE TOTALS: 2 DUMPS 128600 LBS

NOTES TO TABLE 3

The table lists all fuel dumps between 1 October 1974 and 31 March 1975 for which reports were received at AFWL. Column headings are mostly self-evident. LOG NO. is an internal AFWL accounting number referring back to the original dump report sheet. Airspeed and wind speed are in knots. Air temperature is specified to be degrees Centigrade (C) or Fahrenheit (F) when the original report so designates; otherwise, the units of temperature are uncertain. Fuel type 115/145 is represented in the table as 115. MODEL designates the model of the aircraft. For example, a dump by a KC-135A would be listed under dumps by KC-135 type aircraft, with "A" printed in the column under MODEL.

TABLE 4. SUMMARY OF FUEL DUMPS BY AIRCRAFT TYPE

Aircraft Type	Number of Dumps	Total Pounds Dumped
U-2	9	42,000
HH-3	2	2,100
F-4	11	7,650
NI-39	1	2,000
T-39	1	2,000
F-111	75	621,500
FB-111	14	200,000
VC-118	1	3,000
EC-121	13	191,020
EC-125	1	20,000
EC-135	4	139,000
KC-135	121	5,568,000
NKC-135	1	46,000
RC-135	47	1,898,000
WC-135	2	100,000
C-141	2	128,600
TOTAL FOR F-111 TYPE	89	821,500
TOTAL FOR KC-135 TYPE	175	7,751,000

SECTION III

FUEL DUMPS SUMMARIZED BY LOCATION

All fuel dump reports in which the location was specified in latitude and longitude coordinates (278 out of a total of 305 reports) were sorted by computer into a one-degree latitude by one-degree longitude grid, and the number of fuel dumps and total quantity of fuel dumped in each grid box were printed out. The results are given in Table 5, with zero entries being omitted for brevity. A table entry for latitude X, longitude Y gives the number of fuel dumps and total pounds dumped with latitude coordinates greater than, or equal to, X and less than X+1 degrees, and with longitude coordinates greater than, or equal to, Y and less than Y+1 degrees.

Of the 27 fuel dumps not included in Table 5, it was possible to assign 24 of them to grid boxes by converting the reported coordinates into latitude and longitude or by noting the base to which the aircraft were assigned and assuming the fuel dumps were in the same grid box as the base. (The latter assumption was only made for TAC fuel dumps, and only when all other fuel dumps from the same reporting group were known to be near the base.) These assignments are given as notes to Table 5.

TABLE 5. SUMMARY OF FUEL DUMPS BY LOCATION

Degrees Latitude	Degrees Longitude	Number of Dumps	Total Pounds Dumped	Notes*
9 N	79 W	1	2,000	
13 N	140 W	1	37,000	
15 N	116 W	1	120,000	
20 N	58 W	1	40,000	
20 N	158 W	1	50,000	
20 N	164 W	2	90,000	
21 N	15 W	1	42,000	
21 N	155 W	1	29,000	3
21 N	157 W	1	63,000	
21 N	159 W	1	65,000	
24 N	80 W	1	7,000	
25 N	80 W	1	1,000	1
26 N	127 W	1	37,000	
27 N	152 W	1	59,000	
30 N	86 W	1	2,000	
31 N	99 W	1	72,000	11
31 N	110 W	2	7,000	
31 N	111 W	7	35,000	
32 N	82 W	1	66,000	2
32 N	92 W	1	55,000	
32 N	93 W	4	125,000	
32 N	99 W	1	67,000	11

* See page 36 for NOTES to this table.

TABLE 5. SUMMARY OF FUEL DUMPS BY LOCATION (Continued)

Degrees Latitude	Degrees Longitude	Number of Dumps	Total Pounds Dumped	Notes*
32 N	100 W	3	112,000	11
32 N	110 W	1	9,000	
33 N	82 W	2	68,000	
33 N	99 W	1	60,000	11
33 N	106 W	3	4,000	11
33 N	116 W	2	54,000	
33 N	117 W	1	30,000	
34 N	77 W	1	43,000	
34 N	78 W	2	84,000	
34 N	84 W	1	29,000	
34 N	100 W	1	65,000	11
34 N	103 W	12	87,000	7, 11
34 N	104 W	1	16,000	11
34 N	106 W	7	46,000	11
35 N	103 W	1	10,000	11
36 N	114 W	2	35,000	12
36 N	115 W	4	25,000	6, 12
36 N	119 W	4	127,000	13
36 N	125 W	1	13,000	
37 N	97 W	6	205,000	10
37 N	114 W	1	5,000	12
37 N	115 W	1	13,000	12

* See page 36 for NOTES to this table.

TABLE 5. SUMMARY OF FUEL DUMPS BY LOCATION (Continued)

Degrees Latitude	Degrees Longitude	Number of Dumps	Total Pounds Dumped	Notes*
37 N	120 W	1	66,000	13
37 N	121 W	1	8,000	13
37 N	129 W	1	20,000	
38 N	120 W	3	114,000	13
38 N	121 W	3	56,000	13
38 N	122 W	1	500	
38 N	125 W	1	50,000	
39 N	83 W	2	78,000	
39 N	84 W	1	24,000	
39 N	114 W	1	2,000	
39 N	120 W	3	64,000	13
39 N	121 W	5	178,000	13
40 N	0 W	1	33,000	
40 N	85 W	1	15,000	
40 N	86 W	4	145,000	
40 N	95 W	8	295,000	9
41 N	2 W	2	110,000	
41 N	114 W	1	58,000	
42 N	115 W	7	45,000	14
42 N	116 W	20	183,000	14
42 N	117 W	3	40,000	14
43 N	69 W	3	133,000	8
43 N	70 W	3	68,000	8

* See page 36 for NOTES to this table.

TABLE 5. SUMMARY OF FUEL DUMPS BY LOCATION (Continued)

Degrees Latitude	Degrees Longitude	Number of Dumps	Total Pounds Dumped	Notes*
43 N	71 W	1	23,000	8
43 N	73 W	1	38,000	8
43 N	76 W	1	30,000	
43 N	102 W	4	149,000	
43 N	103 W	1	20,000	
43 N	115 W	1	9,000	5, 14
43 N	116 W	2	17,000	14
44 N	73 W	9	215,000	8
44 N	84 W	1	18,000	
45 N	70 W	1	12,000	8
45 N	82 W	1	17,000	
45 N	105 W	1	36,000	
46 N	68 W	3	72,000	8
46 N	85 W	4	214,000	
46 N	88 W	1	34,000	
46 N	109 W	1	20,000	
47 N	97 W	1	25,000	
47 N	98 W	2	147,000	
47 N	111 W	1	25,000	
47 N	114 W	1	30,000	
48 N	10 W	1	80,000	
48 N	100 W	1	4,000	
48 N	116 W	6	347,000	15

* See page 36 for NOTES to this table.

TABLE 5. SUMMARY OF FUEL DUMPS BY LOCATION (Continued)

Degrees Latitude	Degrees Longitude	Number of Dumps	Total Pounds Dumped	Notes*
53 N	176 W	1	23,000	
59 N	146 W	1	81,000	
63 N	147 W	1	60,000	16
64 N	146 W	1	35,000	16
64 N	147 W	5	286,000	16
64 N	149 W	1	80,000	
65 N	14 W	1	71,000	
65 N	146 W	4	167,000	16
65 N	147 W	2	106,000	4, 16
75 N	171 W	1	50,000	16
12 N	100 E	1	95,000	
12 N	101 E	2	48,000	
13 N	143 E	1	45,000	
13 N	144 E	2	31,000	
13 N	146 E	1	30,000	
14 N	14 E	1	105,000	
14 N	120 E	1	52,000	
14 N	144 E	1	76,000	
15 N	113 E	1	78,000	
25 N	27 E	1	90,000	
25 N	127 E	1	39,000	
26 N	127 E	3	157,000	

* See page 36 for NOTES to this table.

TABLE 5. SUMMARY OF FUEL DUMPS BY LOCATION (Concluded)

Degrees Latitude	Degrees Longitude	Number of Dumps	Total Pounds Dumped	Notes*
27 N	128 E	2	280,000	
33 N	127 E	1	107,000	
33 N	173 E	1	20,000	
36 N	24 E	1	34,000	
36 N	25 E	1	13,000	
37 N	24 E	1	30,000	
39 N	144 E	1	30,000	
44 N	76 E	1	20,000	
51 N	174 E	1	12,000	17
52 N	0 E	2	76,000	
52 N	173 E	3	49,000	17
52 N	174 E	4	103,000	17
53 N	0 E	1	70,000	
53 N	1 E	1	90,000	
53 N	172 E	3	56,000	17
53 N	173 E	1	33,000	17
53 N	175 E	1	14,000	17
54 N	172 E	3	65,000	17
54 N	174 E	1	18,000	17
64 N	147 E	1	91,000	

* See next page for NOTES to this table.

NOTES FOR TABLE 5

1. One additional fuel dump of 7000 pounds near this area.
2. One additional fuel dump of 2000 pounds near this area.
3. One additional fuel dump of 50,000 pounds near this area.
4. One additional fuel dump of 70,000 pounds near this area.
5. One additional fuel dump of 14,000 pounds near this area.
6. Six additional fuel dumps totaling 46,000 pounds near this area.
7. Thirteen additional fuel dumps totaling 96,000 pounds near this area.
8. Part of Major Fuel Dumping Area 1.
9. Major Fuel Dumping Area 2.
10. Major Fuel Dumping Area 3.
11. Part of Major Fuel Dumping Area 4.
12. Part of Major Fuel Dumping Area 5.
13. Part of Major Fuel Dumping Area 6.
14. Part of Major Fuel Dumping Area 7.
15. Part of Major Fuel Dumping Area 8.
16. Part of Major Fuel Dumping Area 9.
17. Part of Major Fuel Dumping Area 10.

Plotting the data in Table 5 on a world map, a widely scattered distribution of occasional fuel dumps is noted, with significant concentrations in certain areas. Most of the fuel dumps and all the major concentrations are over the United States. A further investigation of fuel dumps over the continental United States reveals that virtually every fuel dump occurs near (i.e., in the same grid box as) an Air Force Base, usually a base supporting SAC or TAC aircraft. This is not an especially surprising finding, but it does indicate that Air Force fuel dumping, even in emergencies, is not randomly distributed but tends to occur near bases.

Several areas that experience the greatest number of fuel dumps and/or the largest total quantities of fuel released have been identified in Table 5. They are designated as Major Fuel Dumping Areas 1 to 10. All the fuel dumps in each of these areas were individually noted, and trends or patterns in the fuel dumping were sought. Additionally, the areas were checked for such factors as geography, land use, and the proximity of cities. The major fuel dumping areas, listed in roughly east-to-west order, and a summary of findings are given in Table 6.

TABLE 6. MAJOR DUMPING AREAS, DESCRIPTION OF AREAS, AND SUMMARY OF FINDINGS

Major Dumping Area	Description of Area	Summary of Findings
1	43-47° N, 68-74° W - Plattsburg AFB, NY, and Pease AFB, NH.	SAC accounted for 20 of the 21 fuel dumps, totaling 596,000 pounds. Nine fuel dumps, totaling more than 200,000 pounds, occurred in the single grid box 44-45° N, 73-74° W. Of the 20 SAC fuel dumps, 11 were by FB-111 aircraft, typically dumping from 10,000 to 20,000 pounds at 3,000 to 8,000 feet. The other nine fuel dumps were by KC-135 or RC-135 aircraft, dumping 20,000 to 90,000 pounds at about 20,000 feet. The area included parts of upstate New York, Vermont, New Hampshire, many small towns, Lake Champlain, the Adirondack Mountains, and within approximately 70 miles of Montreal.
2	40-41° N, 95-96° W - Offutt AFB, Nebraska.	Eight SAC fuel dumps in this single grid box, totaling 295,000 pounds; all were made by EC-135, KC-135, or RC-135 aircraft. The altitude ranged from 10,000 to 27,000 feet (average 17,000 feet), and the quantities ranged from 10,000 to 60,000 pounds, with four fuel dumps of 40,000 pounds or more. The area covered western Iowa and the eastern Nebraska plains, Omaha, and some small cities.

TABLE 6. MAJOR DUMPING AREAS, DESCRIPTION OF AREAS, AND SUMMARY OF FINDINGS (Continued)

Major Dumping Area	Description of Area	Summary of Findings
3	37-38° N, 97-98° W - McConnell AFB, Kansas.	Six SAC fuel dumps were made in this single grid box, totaling 205,000 pounds. All were made by KC-135 aircraft, typically flying at 22,000 feet and dumping from 20,000 to 55,000 pounds. The area included the Southern Kansas plains, Wichita, and some small cities.
4	31-36° N, 99-106° W These fuel dumps were actually separated by location and by command into three small subareas near four bases:	Forty-four fuel dumps were made in this region, totaling 636,050 pounds.
	(1) Dyess AFB and Carswell AFB, Texas:	Seven SAC fuel dumps were made by KC-135 aircraft, totaling 376,000 pounds. The altitudes were around 20,000 feet. Five fuel dumps in the 60,000 to 70,000-pound range were made in Texas near Abilene.
	(2) Holloman AFB, New Mexico:	Ten fuel dumps were made by AFSC aircraft in trivial quantities.
	(3) Cannon AFB, New Mexico:	Twenty-seven fuel dumps were made by F-111 aircraft from TAC. First reported fuel dumps were in December 1974. The altitude ranged from 5,000 to 20,000 feet (mostly 10,000 to 12,000 feet); the quantities were all 16,000 pounds or less, with ten fuel dumps of 5,000 pounds or less. The area included the eastern New Mexico plateau, the cities of Clovis and Portales, and the area located about 80 miles from Albuquerque.

TABLE 6. MAJOR DUMPING AREAS, DESCRIPTION OF AREAS, AND SUMMARY OF FINDINGS (Continued)

Major Dumping Area	Description of Area	Summary of Findings
5	36-38° N, 114-116° W - Nellis AFB, Nevada.	Fourteen fuel dumps were made by F-111 aircraft from TAC, totaling 124,500 pounds. Typical altitude ranged from 10,000 to 13,000 feet. Seven fuel dumps were of about 5,000 pounds each; other fuel dumps ranged from 12,000 to 19,000 pounds. The area included southern Nevada and Las Vegas.
6	36-40° N, 119-122° W - Castle AFB and McClellan AFB, California.	Six fuel dumps were made by EC-121 aircraft from ADC, totaling 113,000 pounds. Fourteen fuel dumps were made by SAC KC-135 aircraft, totaling 500,000 pounds. Typical altitudes ranged from 7,000 to 8,000 feet for ADC aircraft and 20,000 to 25,000 feet for SAC aircraft. Quantities ranged from 7,000 to 30,000 pounds for ADC aircraft, and 8,000 to 67,000 pounds for SAC aircraft. The area included central California east of the mountains and Sacramento, Fresno, and other cities within approximately 80 miles of San Francisco.

TABLE 6. MAJOR DUMPING AREAS, DESCRIPTION OF AREAS, AND SUMMARY OF FINDINGS (Continued)

Major Dumping Area	Description of Area	Summary of Findings
7	42-44° N, 115-118° W - Mountain Home AFB, Idaho.	Thirty-three fuel dumps out of 34 were made by TAC F-111 aircraft, totaling 285,000 pounds. Twenty fuel dumps were made in the single grid box 42-43° N, 116-117° W. Typical altitudes ranged from 10,000 to 15,000 feet. Quantities ranged from 3,000 to 17,000 pounds. The area included southwestern Idaho and Boise.
8	48-49° N, 116-117° W - near Fairchild AFB, Washington.	Six fuel dumps were made by KC-135 aircraft from SAC in this single grid box, totaling 347,000 pounds. Altitudes ranged from 20,000 to 28,000 feet. Quantities ranged from 40,000 to 80,000 pounds. The area included northern Idaho and eastern Washington.
9	63-66° N, 146-148° W - Eielson AFB, Alaska.	Fourteen of the 15 fuel dumps were made by SAC KC-135 or RC-135 aircraft, totaling 734,000 pounds. Altitudes were almost all between 20,000 and 30,000 feet. Quantities ranged from 20,000 to 96,000 pounds with nine fuel dumps being over 50,000 pounds. The area covered included central Alaska and Fairbanks.

TABLE 6. MAJOR DUMPING AREAS, DESCRIPTION OF AREAS, AND SUMMARY OF FINDINGS (Concluded)

Major Dumping Area	Description of Area	Summary of Findings
10	51-55° N, 172-176° E - Shemya AFB, Alaska.	Seventeen fuel dumps, all of which were made by SAC RC-135 aircraft with a total quantity of 350,000 pounds. No fuel dumps were reported after January 1975. Altitudes were around 20,000 feet. Quantities ranged from 9,000 to 33,000 pounds. The area included the tip of the Aleutian Islands.

SECTION IV

DISTRIBUTION OF FUEL DUMPS BY QUANTITY DUMPED AND ALTITUDE

Fuel dumps were segregated according to whether they were by SAC or non-SAC aircraft and were grouped according to the size of the fuel dump in 10,000-pound intervals. The fuel dumps were also grouped by altitude in 1,000-foot ranges. The results are shown in Figures 1 and 2.

The segregation of fuel dumps into SAC and non-SAC aircraft fuel dumps was justified on the grounds that SAC aircraft account for most of the fuel dumps and most of the poundage and SAC flies a wholly different type of aircraft (KC-135 tankers) than the other commands. This segregation is further justified by the results. The quantity and altitude distributions for SAC aircraft fuel dumps are different from those of the remainder of the Air Force aircraft. Non-SAC aircraft fuel dumps peak at small sizes of 10,000 pounds or less and drop to virtually none above 20,000 pounds. SAC aircraft fuel dumps are significant and increase in number from 0 to 20,000 pounds, peak between 20,000 and 30,000 pounds, and remain significant through fuel dump sizes of 100,000 pounds (Figure 1). Almost all non-SAC aircraft fuel dumps occurred below 20,000 feet; a significant number of SAC aircraft fuel dumps occurred at these lower altitudes, but most SAC aircraft fuel dumps occurred between 20,000 and 30,000 feet (Figure 2).

The distribution of SAC aircraft fuel dumps appears to be similar at small sizes and low altitudes to that of non-SAC aircraft fuel dumps and to have an additional component of larger, higher-altitude fuel dumps. Scanning the tabulated data bears out this assumption and adds a further utility to it. Most non-SAC aircraft fuel dumps are by TAC aircraft, and virtually all of these are F-111 type. TAC F-111 aircraft fuel dumps were usually 20,000 pounds or less and occurred at altitudes of 20,000 feet or less. SAC aircraft fuel dumps by its FB-111 aircraft were distributed similarly. The larger, higher-altitude aircraft fuel dumps were from the KC-135 type aircraft which is unique to SAC. Thus, it is possible to group most Air Force aircraft fuel dumps into two classes:

(1) F-111 class fuel dumps: TAC F-111s and SAC FB-111s; relatively small, low-altitude fuel dumps; 1,000 to 20,000 pounds, 1,000 to 20,000 feet.

(2) KC-135 class fuel dumps: SAC RC-, KC-, and EC-135s; relatively large, high-altitude fuel dumps; 20,000 to 100,000 pounds, 20,000 to 30,000 feet.

Some EC-, KC-, and RC-135 fuel dumps appear in the F-111 class region but, for the most part, the dumps respect the class boundaries.

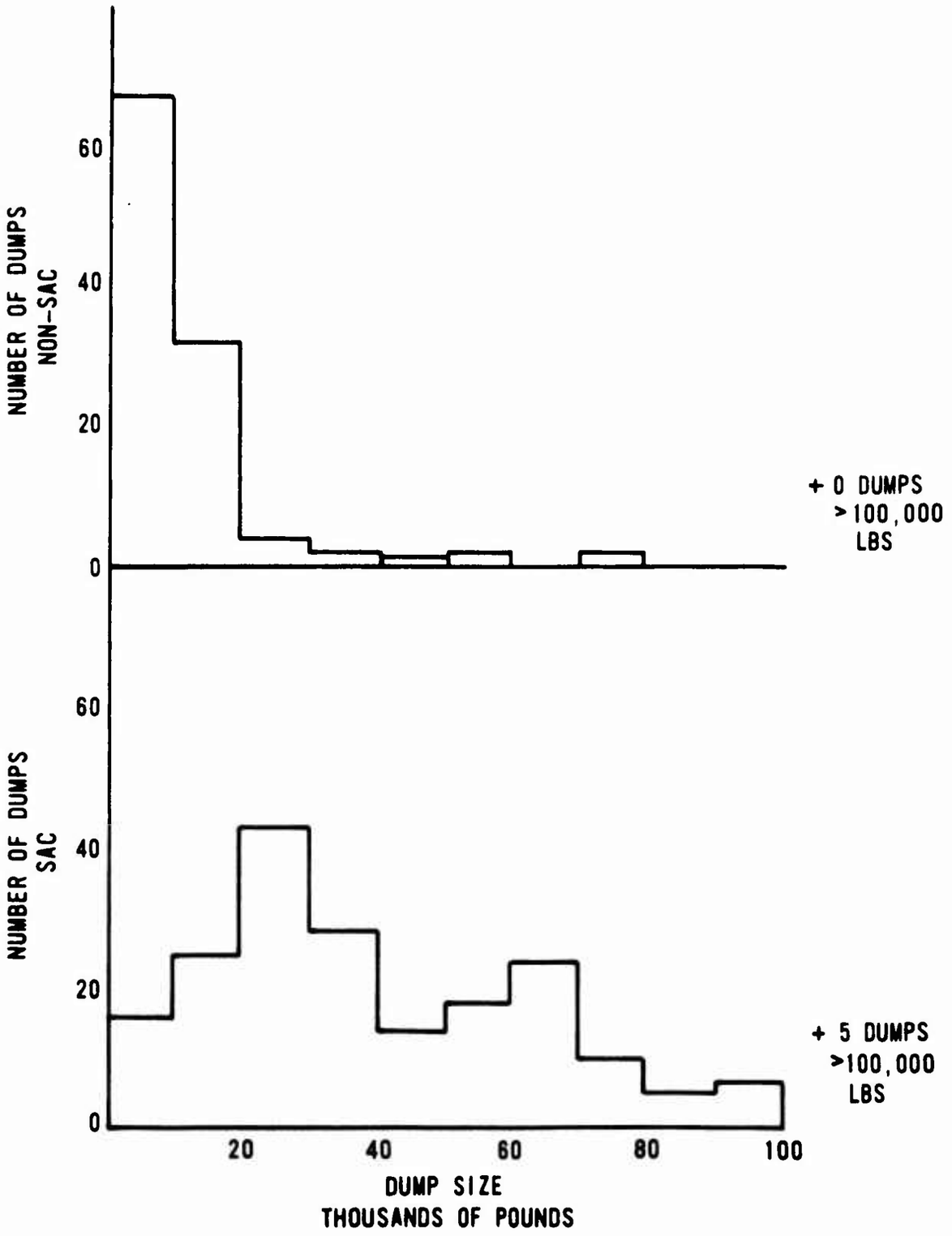

Figure 1. Distribution of Fuel Dumps by Size

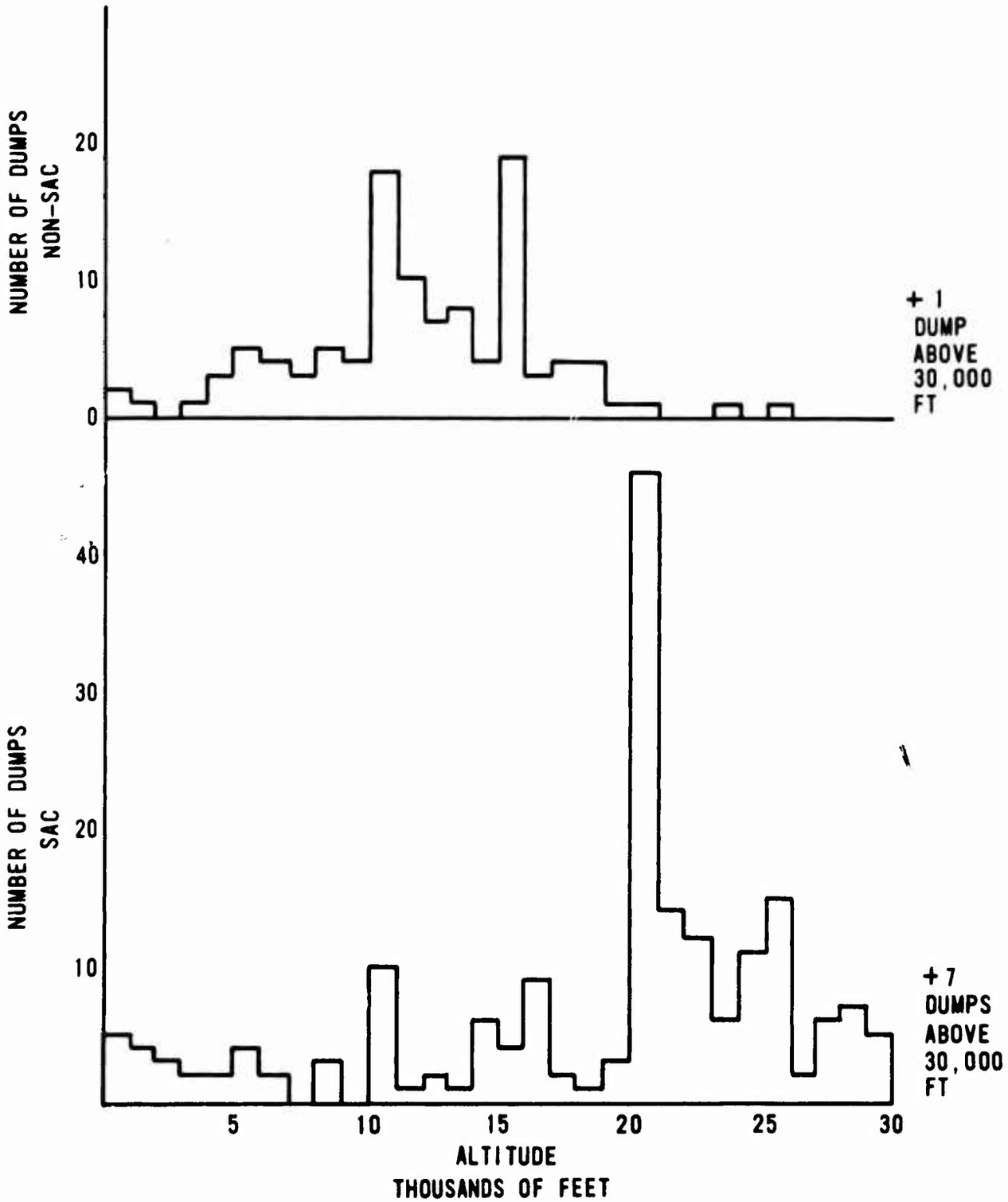

Figure 2. Distribution of Fuel Dumps by Altitude

SECTION V

SUMMARY AND DISCUSSION

The immediately striking feature of the data in Table 1 is the amount of fuel being jettisoned monthly, and the overwhelming role of SAC aircraft in the dumping. TAC has a subsidiary role in Air Force dumping and is the only other command of significance. In terms of number of dumps, SAC accounts for almost 64 percent and TAC almost 25 percent of Air Force totals, in terms of total poundage the contributions are SAC, 87 percent, and TAC 7 percent.

Fuel dump areas and procedures are designed to minimize the impact of authorized fuel dumping into the atmosphere. These areas are coordinated by the major commands with the Air Traffic Control Agency exercising jurisdiction over the location. Every attempt is made to locate these areas off federal airways and so that prevailing winds will not carry fuel spray to urban areas, agricultural regions, or water supply sources. Using dump areas over 20,000 feet above the terrain is preferred to take advantage of the fuel's volatility upon exposure to the higher atmosphere. These areas are normally used for all fuel dumping unless, during an aircraft emergency, the nature of the emergency precludes the use of the designated areas. In these cases, every effort is made to avoid populated areas. If fuel dumping is indeed harmful to the environment, the effects will most likely be felt in the areas of New England, the Midwest, and California designated Major Dumping Areas 1, 2 and 6, respectively, in this report.

Not only were two commands responsible for most Air Force fuel jettisoning, but only two types of aircraft (F-111 and KC-135) were significant sources of fuel dumps. The two types have distinct characteristic fuel dump sizes and altitudes. This division of fuel dumps according to aircraft type will simplify further study of the overall fuel dumping problem.

Further study of fuel dumping does indeed seem warranted, since major gaps remain in the current understanding of the subject. Also, the extent of Air Force fuel dumping indicated by this initial study suggests that resultant environmental impact may not be negligible. Furthermore, it is likely that in the future the Air Force will be required to account for the effects of fuel dumping in preparing environmental impact statements for its proposed operations.

Subsequent research in this project will concentrate on investigations of the physical behavior of jettisoned fuel after it is released (droplet formation and interaction with the aircraft wake, followed by fallout and/or evaporation) and of the photochemistry of the fuel vapor (its role in producing irritating or toxic air pollutants by chemical reaction in the atmosphere). Droplet formation needs to be better understood and, for this reason, actual measurements of jettisoned fuel droplets in an aircraft wake would be of great value. Because of the predominant role of KC-135 type aircraft in Air Force fuel dumping, a KC-135 is the obvious aircraft of choice

to perform fuel dumps for measurement. Arrangements are currently being made with AFSWC and AFCRL to supply a fuel dumping aircraft and a probe aircraft for this work. This effort is considered an important part of this project.

Photochemical investigations are being conducted in the laboratories of the Air Force Civil Engineering Center at Kirtland AFB. The chemical behavior of the fuel and the concurrent and subsequent dispersion of fuel vapor and reaction products depend on the initial conditions of fuel distribution, altitude, and presence of other chemical species in the aircraft exhaust. These conditions, in turn, depend on the fuel dump parameters of aircraft type, airspeed, fuel dump rate, fuel dump size, and altitude, as well as on meteorological conditions. Because Air Force fuel dumps can be divided into two distinct classes with fairly close internal similarity, conclusions of wide applicability should be possible by thoroughly investigating one simulated dump corresponding to a typical member of each class. Thus, the amount of experimental work would not be overwhelmingly great.

Typical members to study might be an F-111 fuel dump of 10,000 pounds at 10,000 feet, and a KC-135 fuel dump of 50,000 pounds at 20,000 feet. (Since there is a potential problem of ground contamination by JP-4 fuel released below a few thousand feet, it might be necessary to treat as a separate case an F-111 fuel dump at about 2,000 feet.) The results could presumably be scaled to give fair accuracy over the range of duel dump sizes and altitudes in each class, and thus allow the prediction of the environmental impact of most instances of fuel jettisoning by the Air Force.

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Hq USAF/PREE	1	3800 ABW/DEE	1
Hq USAF/RDPQ	1	AFIT/DEM	1
Hq USAF/RDPS	2	AU/LDG	1
Hq USAF/SAFOI	1	AUL (AUL/LSE-70-239)	1
Hq USAF/SGPA	2	AFOSR	1
Hq USAF/PREV	1	AMRL/DAL	
Hq USAF/PREV-X	1	USAF Environ Health Lab	1
Hq USAF/PREV-P	1	AFWL/SUL (Tech Library)	1
Hq Comd USAF/DEE	1	AFGL/LKC	1
ADC/DEEV	2	AFGL/XOP	1
ADC/DEECV	1	USAFSAM/EDE	2
CINCAD/SGPAP	1	AFRPL/Library	1
AFSC/DEE	1	USAF Environ Health Lab	2
AFSC/DEEE	1	AFATL/DLOSL	1
AFLC/SGB	1	ASD/ENJEA	1
AFLC/DEM	1	ASD/DEP	1
AFSC/DE	1	AEDC/DEE	1
AFSC/DEV	1	AMD/RD	1
AFSC/SGB	1	AMD/RDU	1
AFSC/SGPE	1	ADTC/CSV	1
AFSC/DASR	1	AFFTC/DE	1
AFSC/DLCAW	2	AFCEC/XR	1
ATC/DEPX	1	AFCEC/EV	13
ATC/DEPV	1	Defense Res & Engr/AD (E&LS)	1
ATC/SGPAP	1	OASD/Health & Environ	2
AAC/DEVMV	1	DDC/TCA	12
AAC/DEV	1	1 Med Service Wg/SGB	1
AAC/SGB	1	4 Med Service Sq	1
MAC/SGPE	1	AFCEC/WE	1
MAC/DEMP	1	USA Environ Hyg Agcy	1
MAC/DEEE	1	USA CERL	1
CINCPACAF/DEMU	2	Chief of Naval Op	1
CINCPACAF/SGPE	1	NCEL/Code 25111	1
CINCSAC/DEV	2	Naval Air Dev Ctr/MAE	1
CINCSAC/DEPA	2	Tech Transfer Staff (EPA)	1
CINCSAC/DEPV	1	Office of Rsch & Dev (EPA)	1
CINCSAC/SGPA	1	Univ of Cal	1
TAC/DEEV	1		
TAC/SGPB	1		
CINCUSAFE/DEEO	1		
CINCUSAFE/Surgeon	1		
CINCUSAFE/DEPV	2		
AFISC/SGMS	1		
AFISC/SES	2		
AFRES/DEEE	1		
USAFA/DE	1		
USAFA/DEV	1		

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